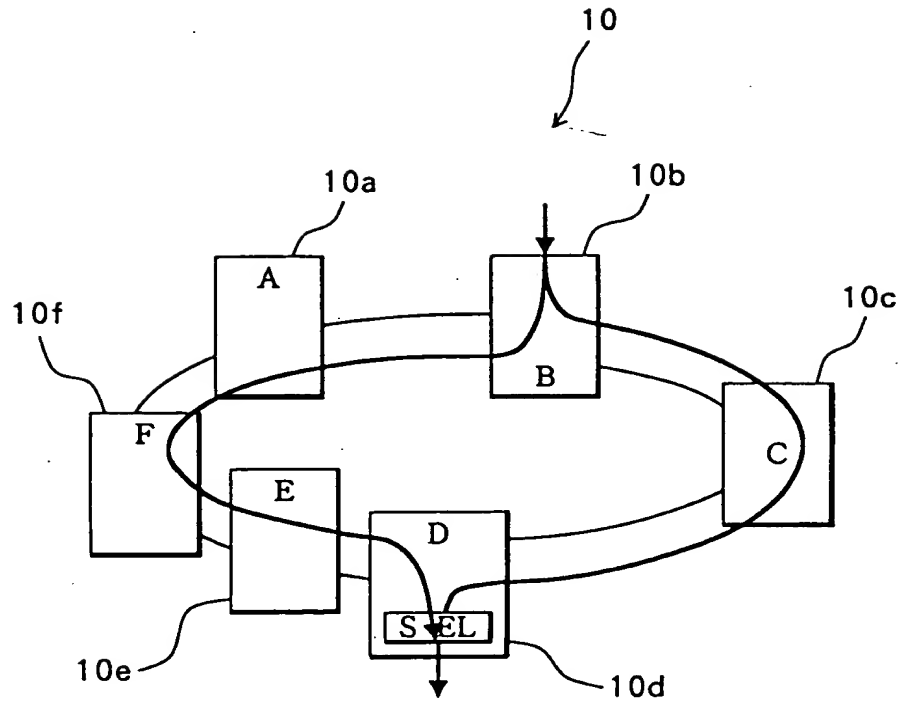


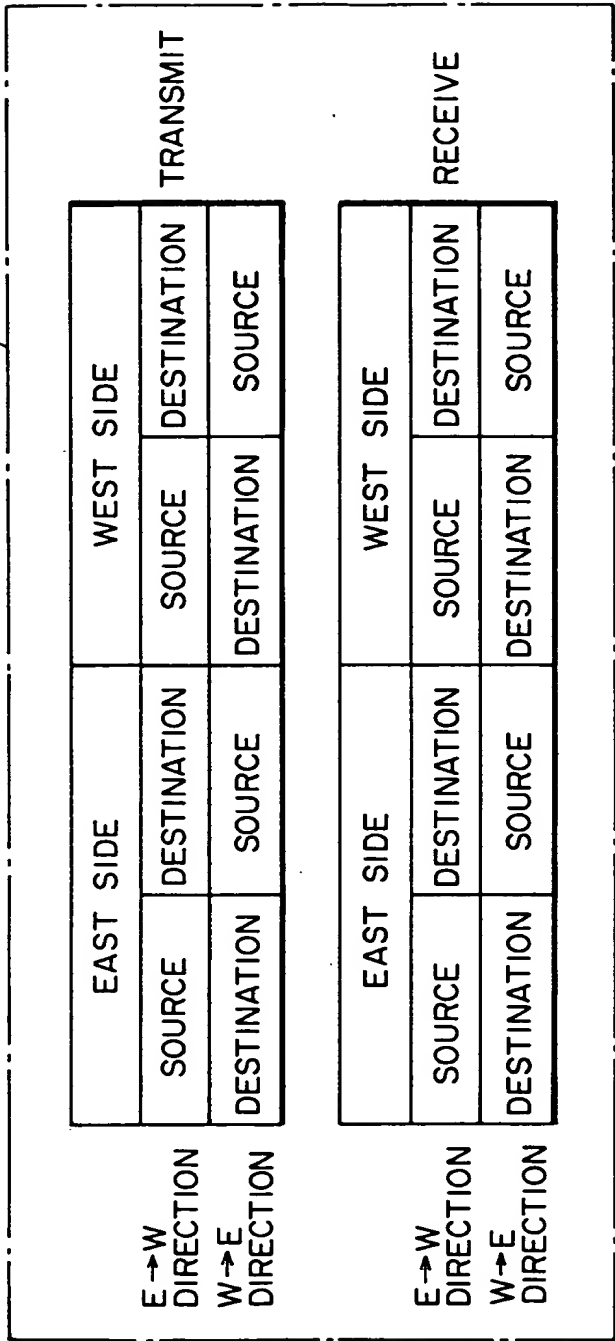
FIG. 1



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FIG.2

1



SOURCE : 4BITS
DESTINATION : 4BITS

FIG. 3

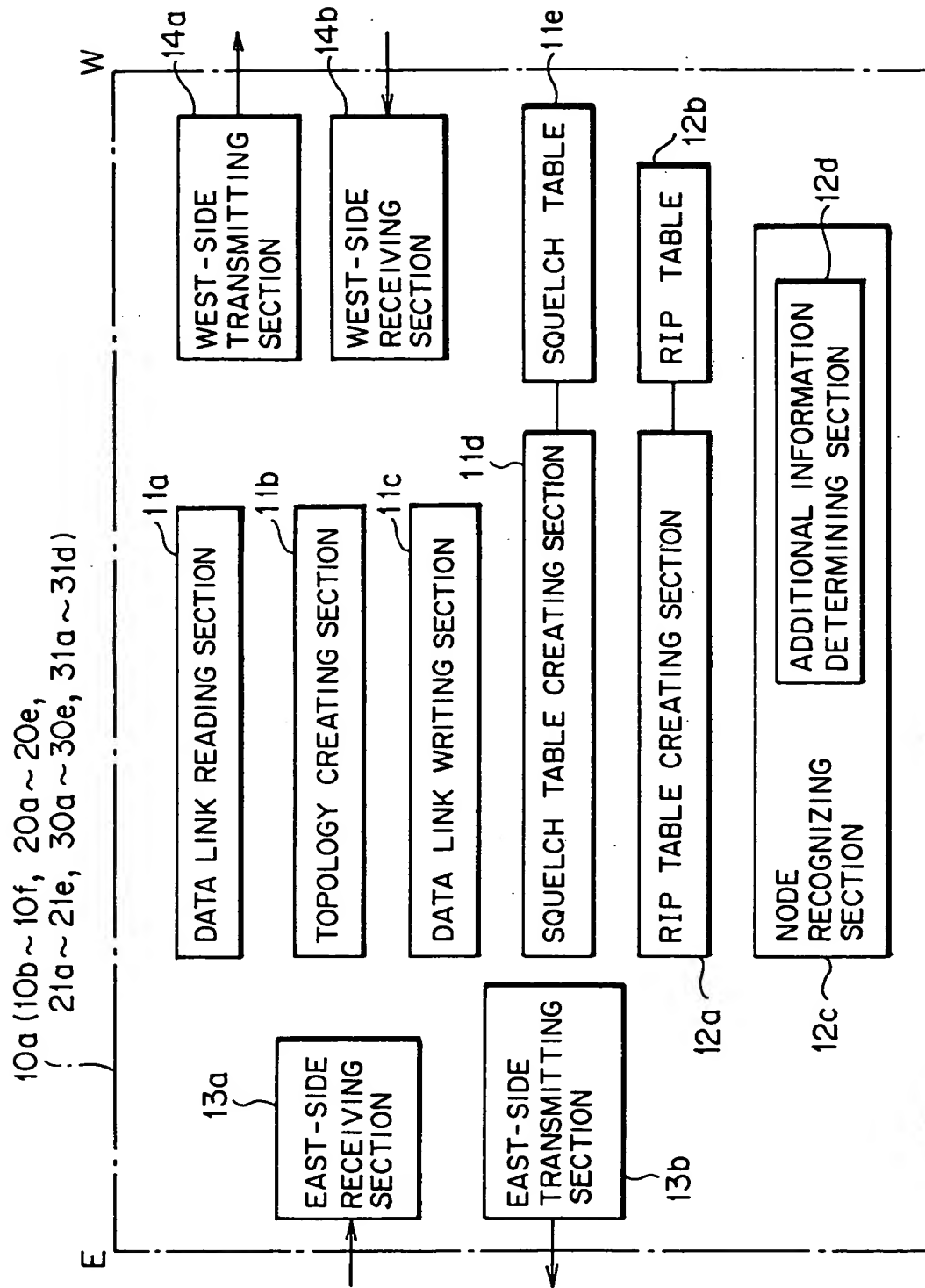


FIG. 4(a)

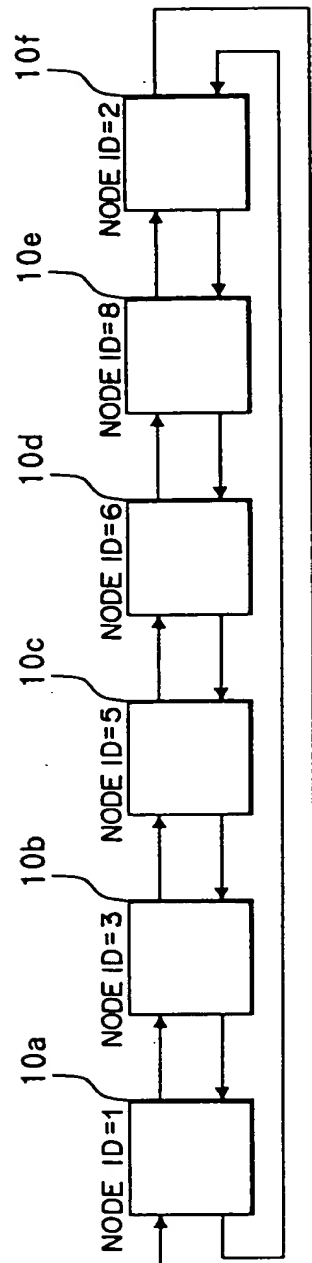


FIG. 4(b)

NODE ID	1	3	5	6	8	2
TOPOLOGY TABLE	1,3,5,6,8,2	3,5,6,8,2,1	5,6,8,2,1,3	6,8,2,1,3,5	8,2,1,3,5,6	2,1,3,5,6,8

FIG. 4(c)

	NODE 1	NODE 3	NODE 5	NODE 6	NODE 8	NODE 2
RELATIVE INDICATED NODE ID	INDICATED NODE	INDICATED NODE	INDICATED NODE	INDICATED NODE	INDICATED NODE	INDICATED NODE
0	1	3	5	6	8	2
1	3	5	6	8	2	1
2	5	6	8	2	1	3
3	6	8	2	1	3	5
4	8	2	1	3	5	6
5	2	1	3	5	6	8

FIG. 5(a) FIG. 5(b) FIG. 5(c) FIG. 5(d)

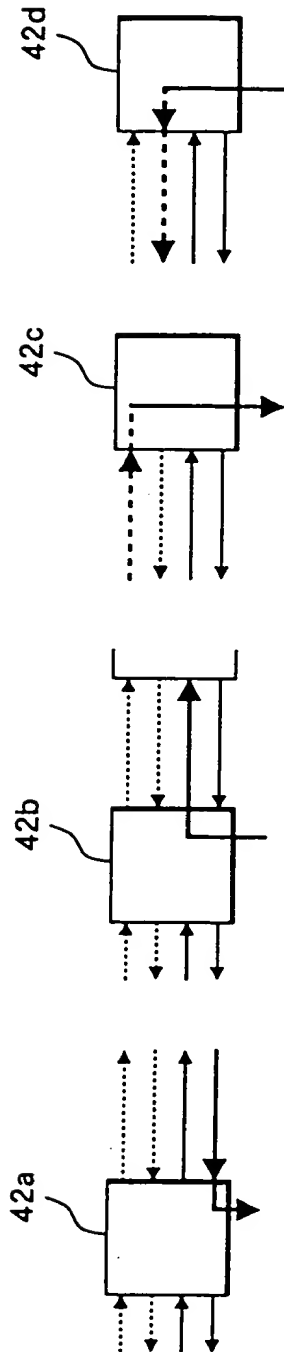


FIG. 6(a)

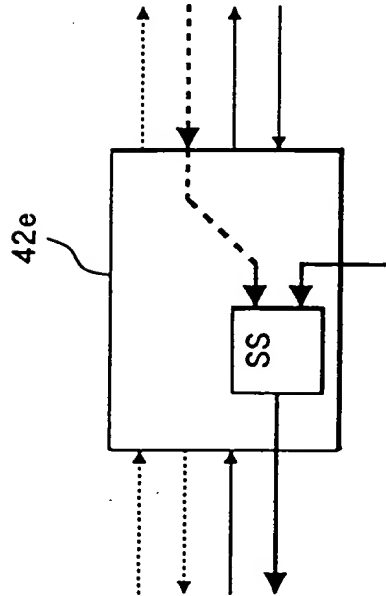


FIG. 6(b)

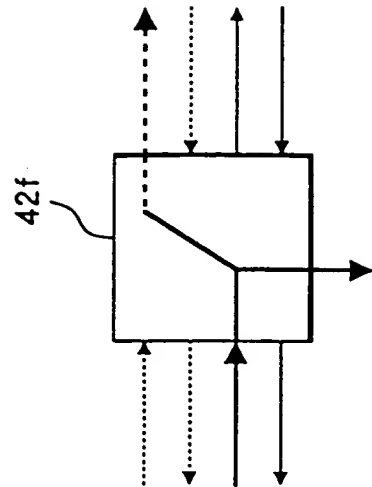


FIG. 7(a)

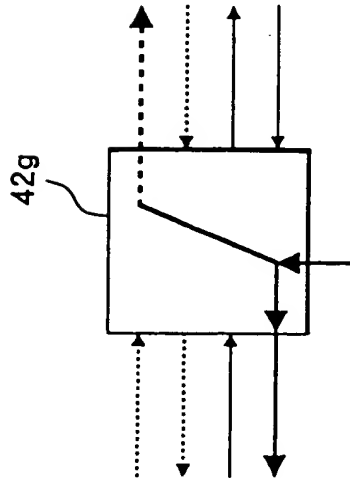


FIG. 7(b)

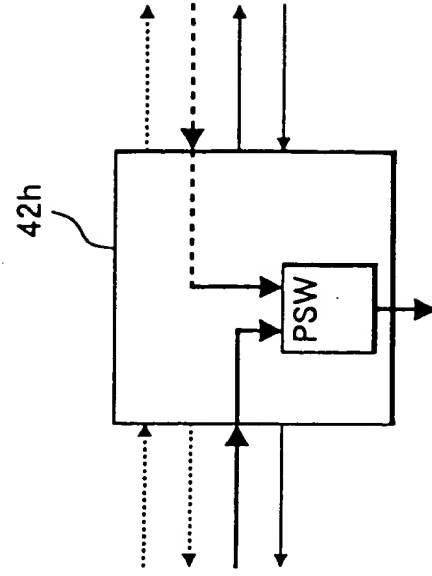
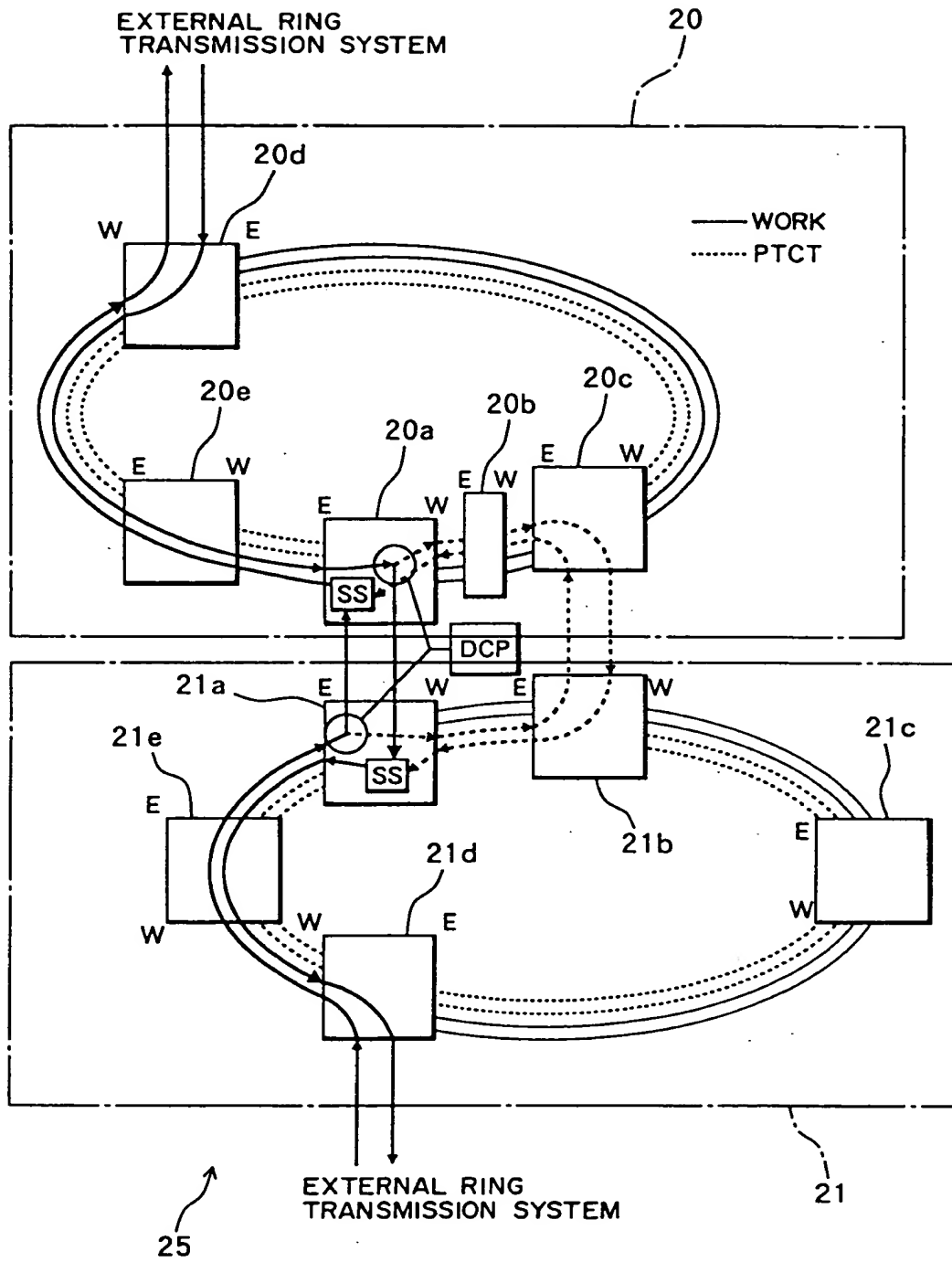


FIG. 8



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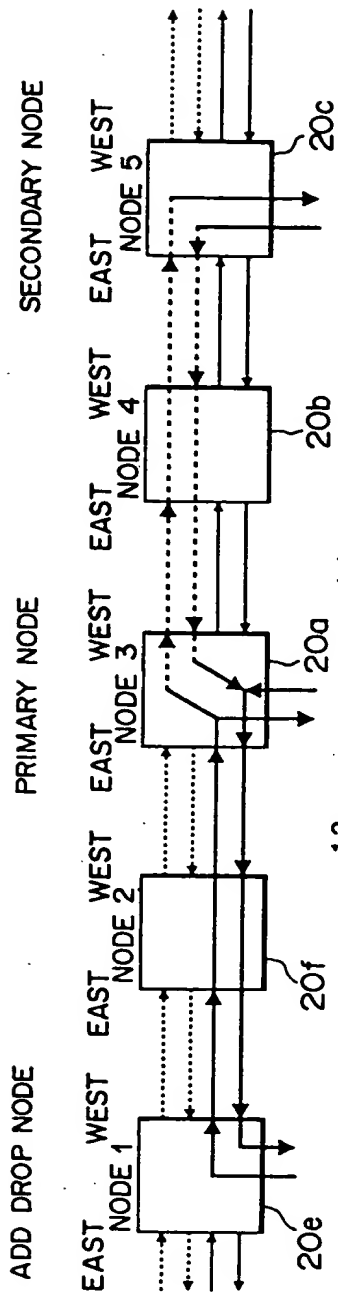


FIG. 9(a)

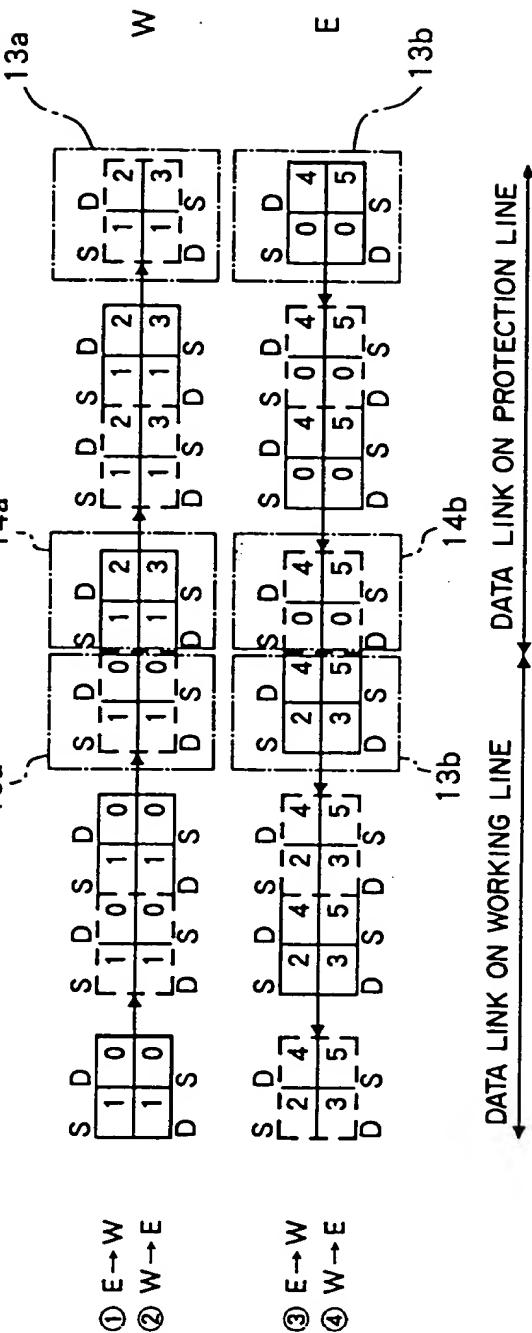
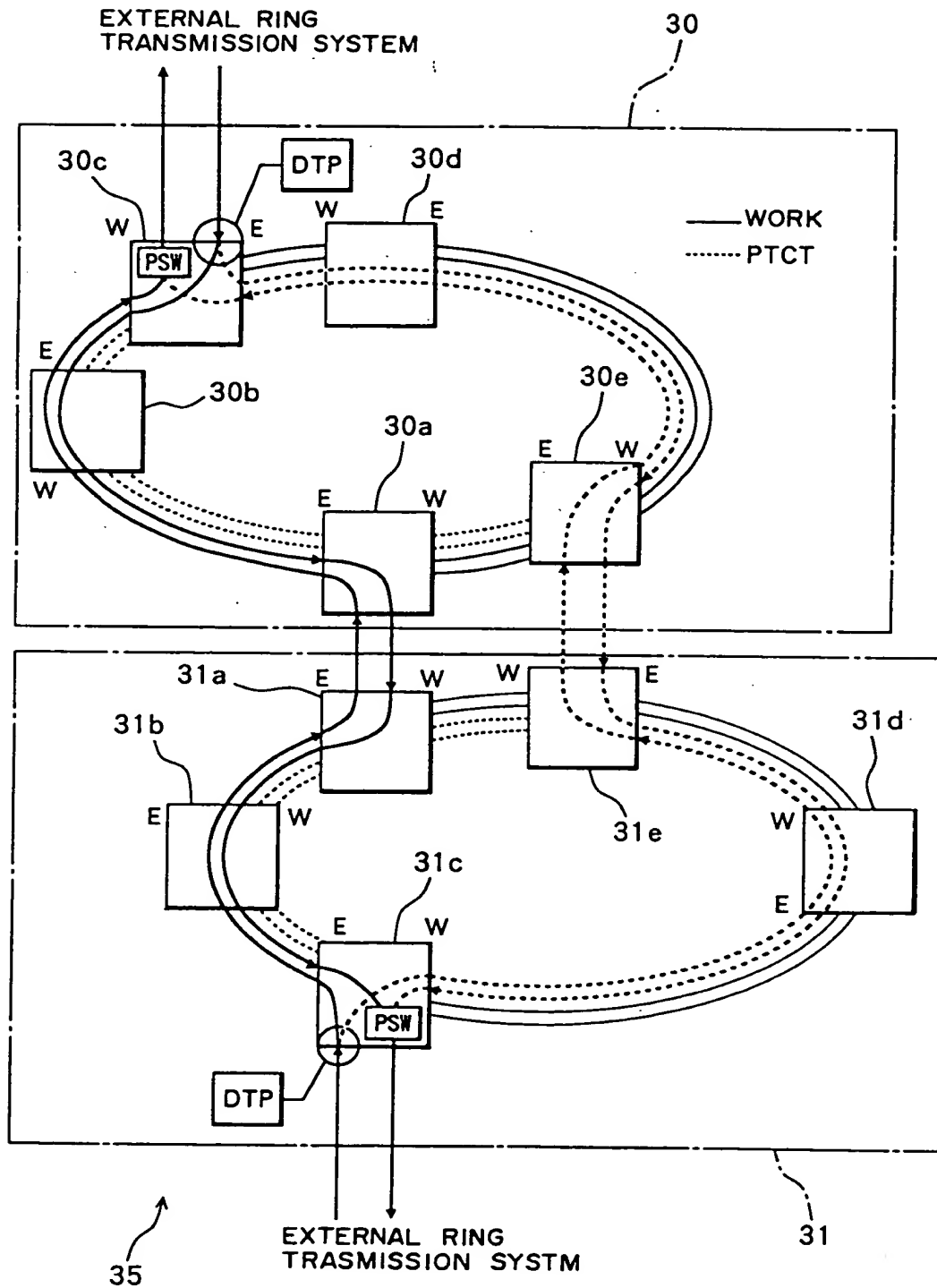
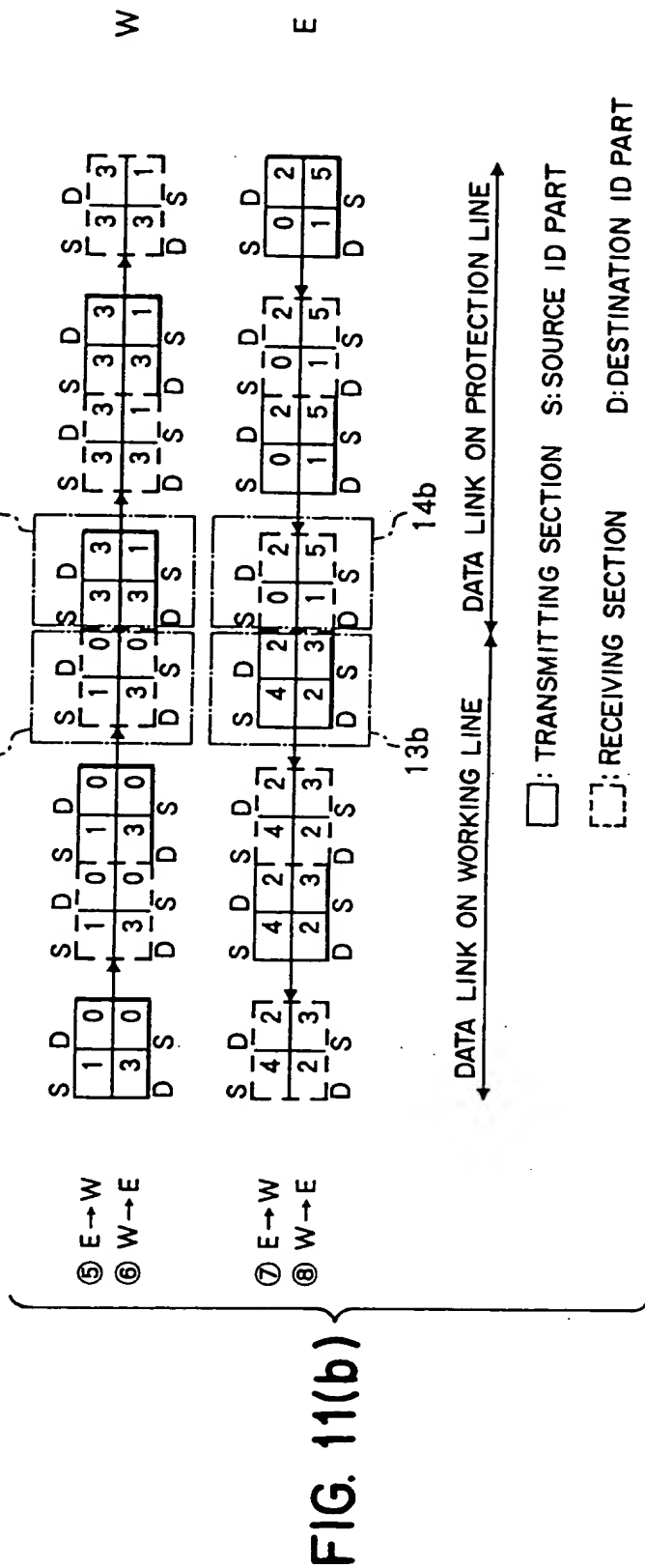
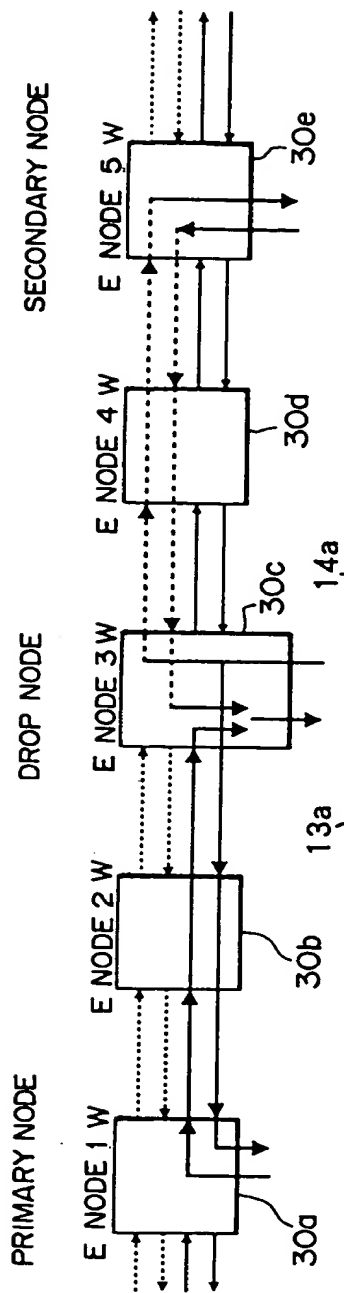


FIG. 9(b)

FIG. 10



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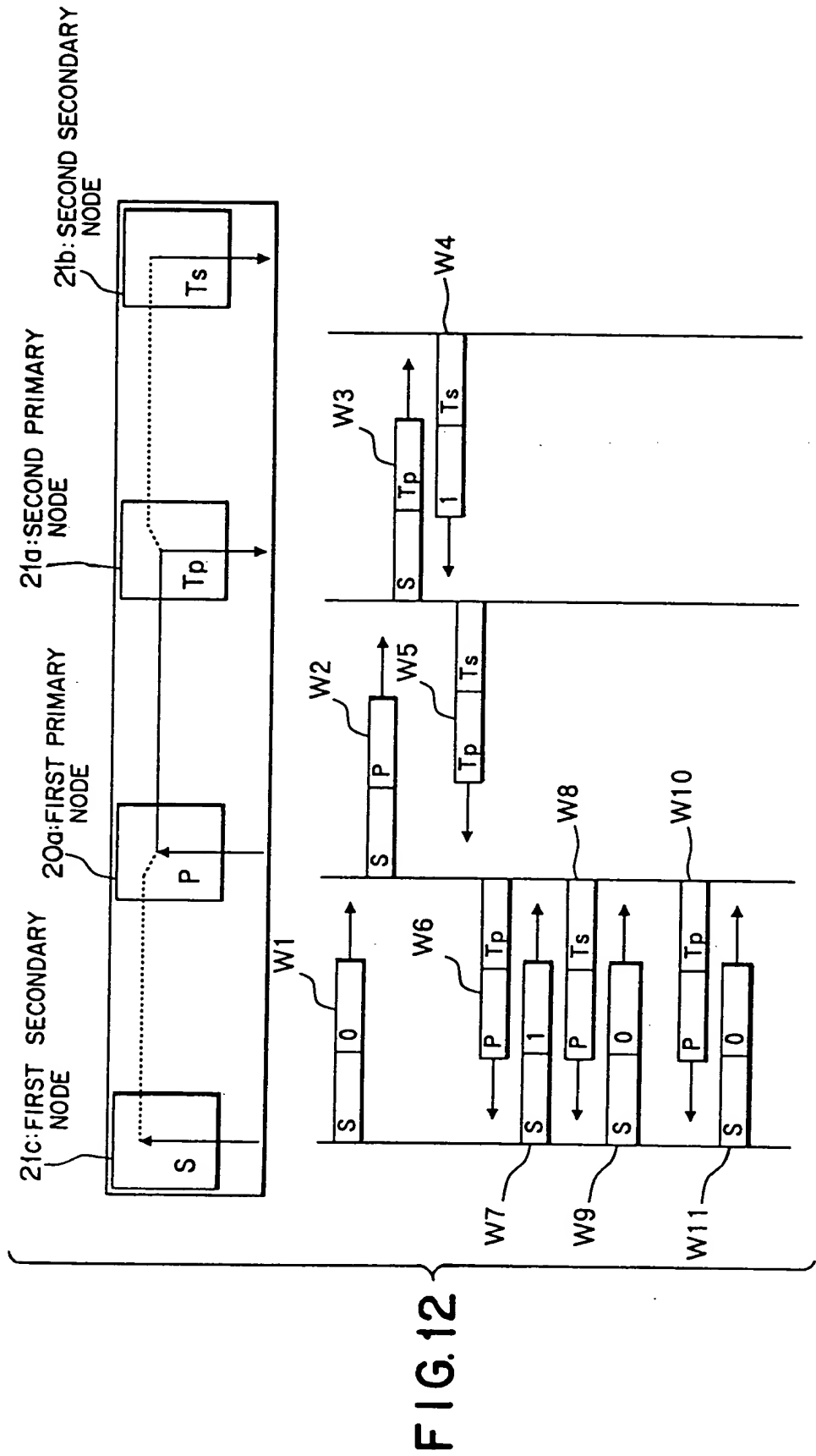
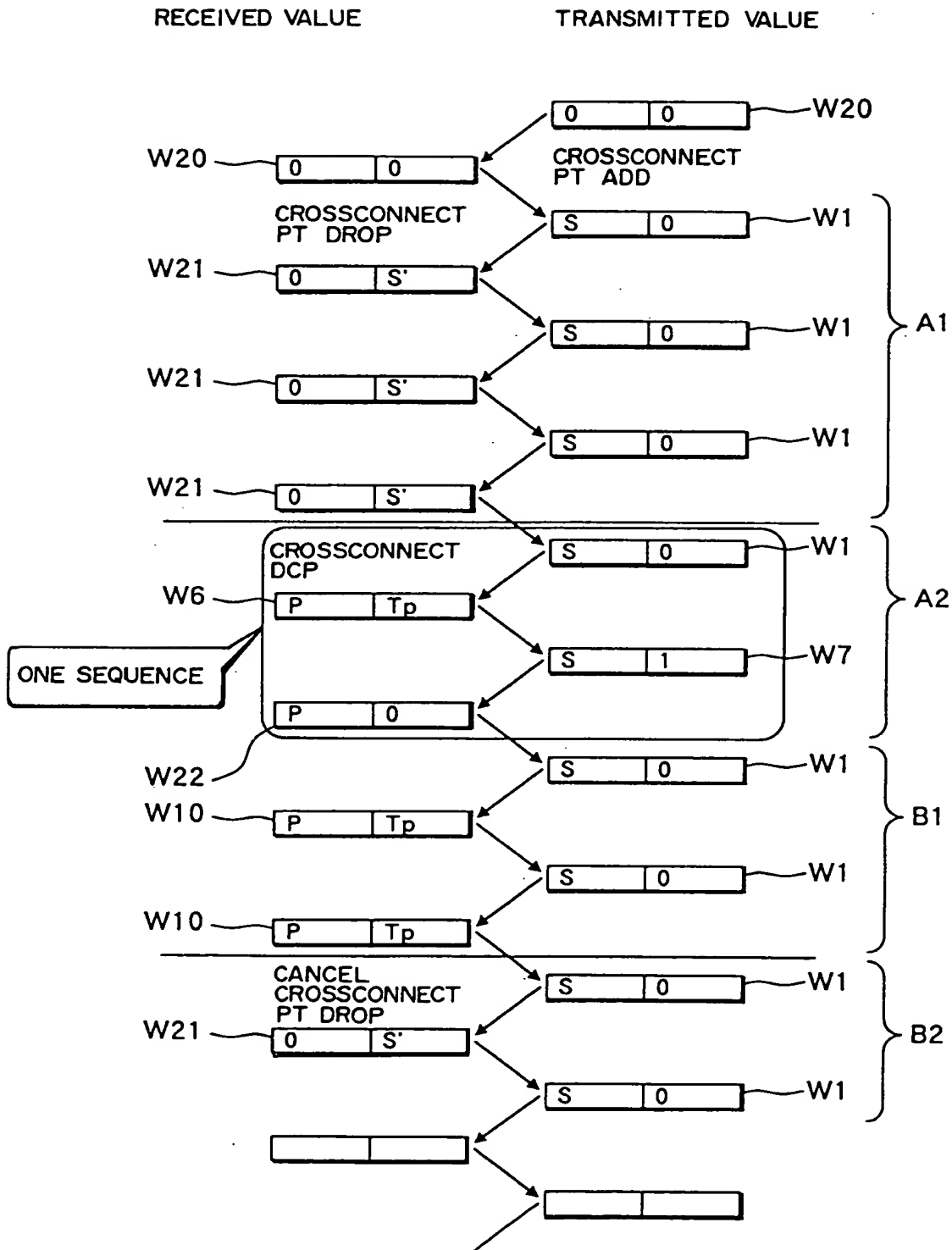


FIG. 13



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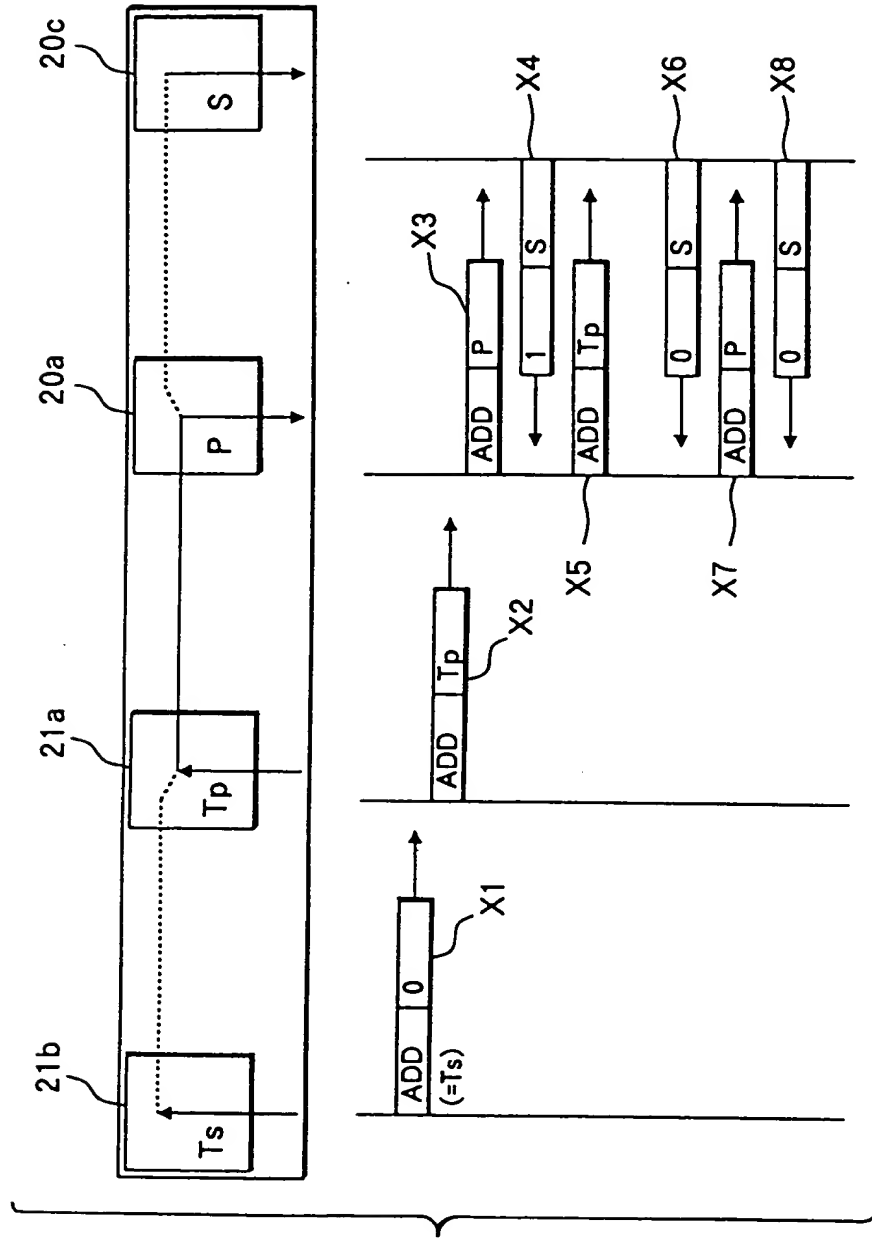
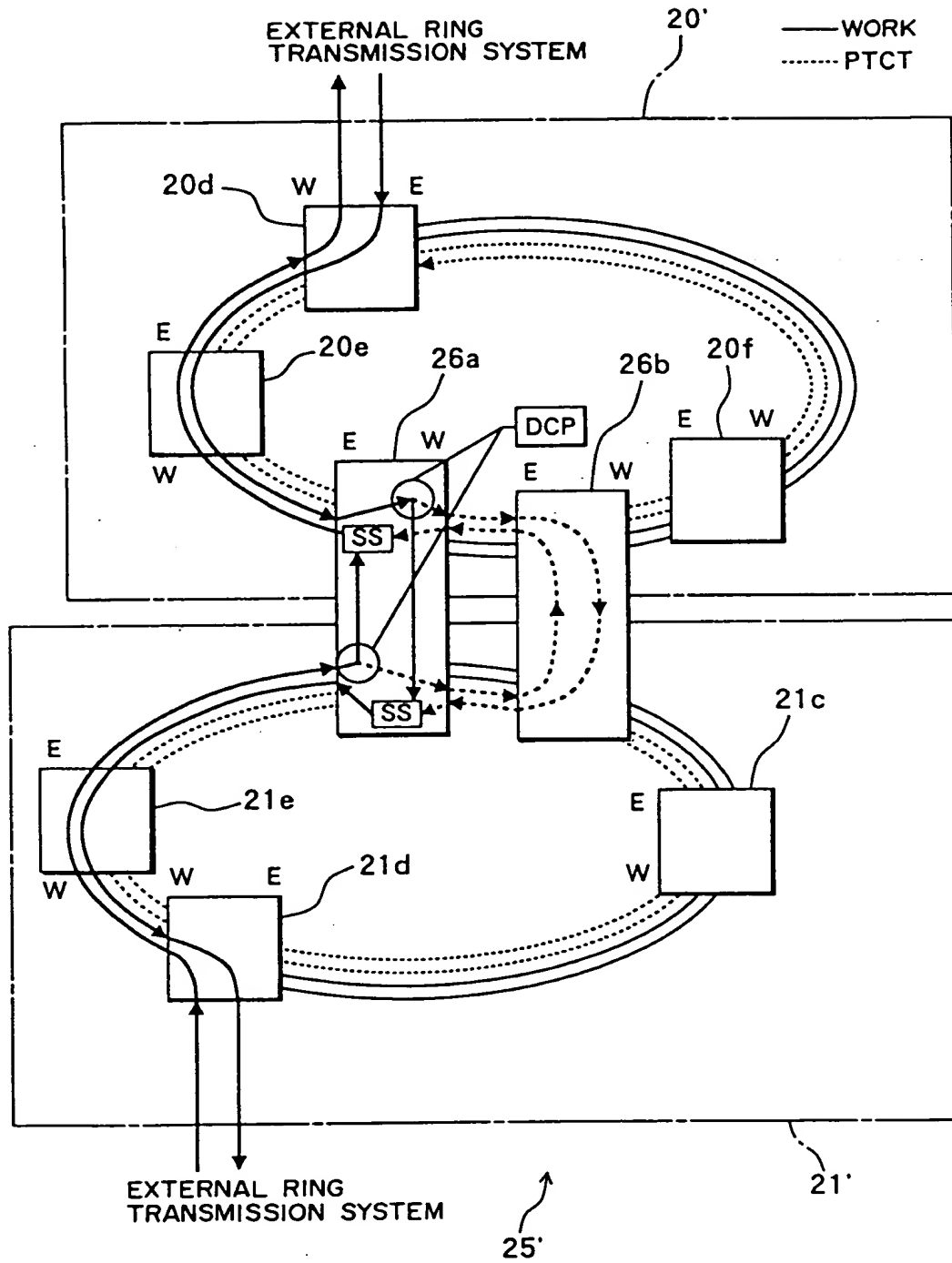


FIG. 14

FIG. 16



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FIG. 17

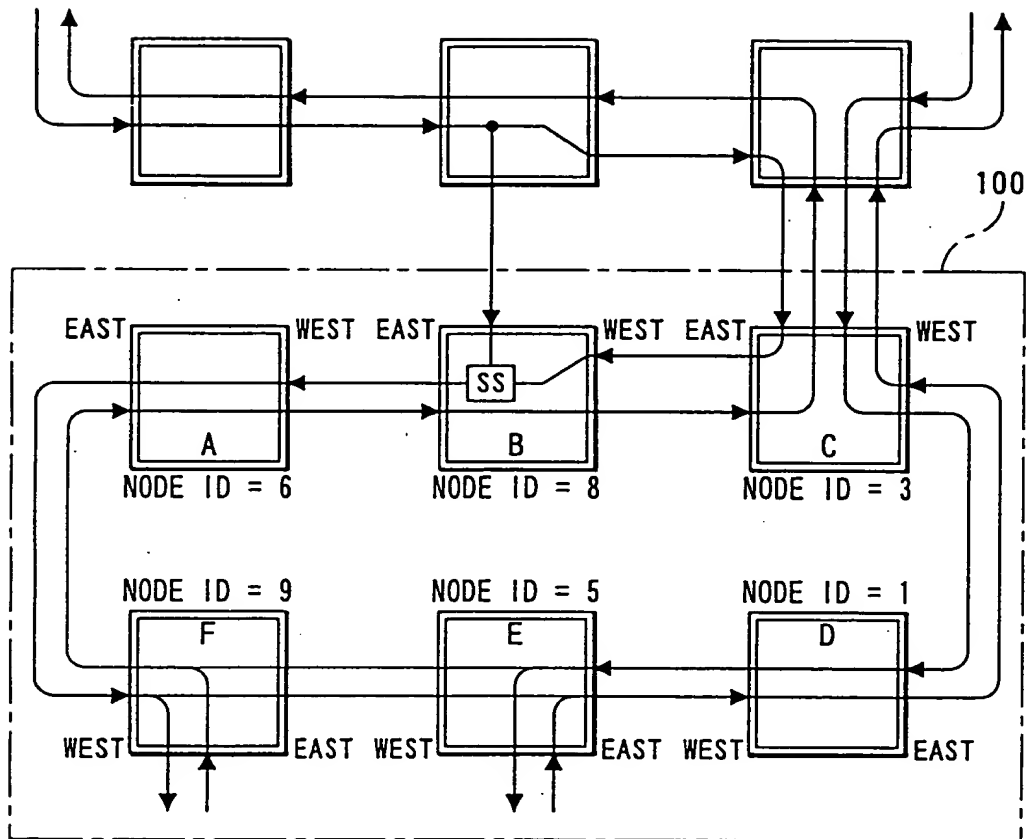


FIG.18

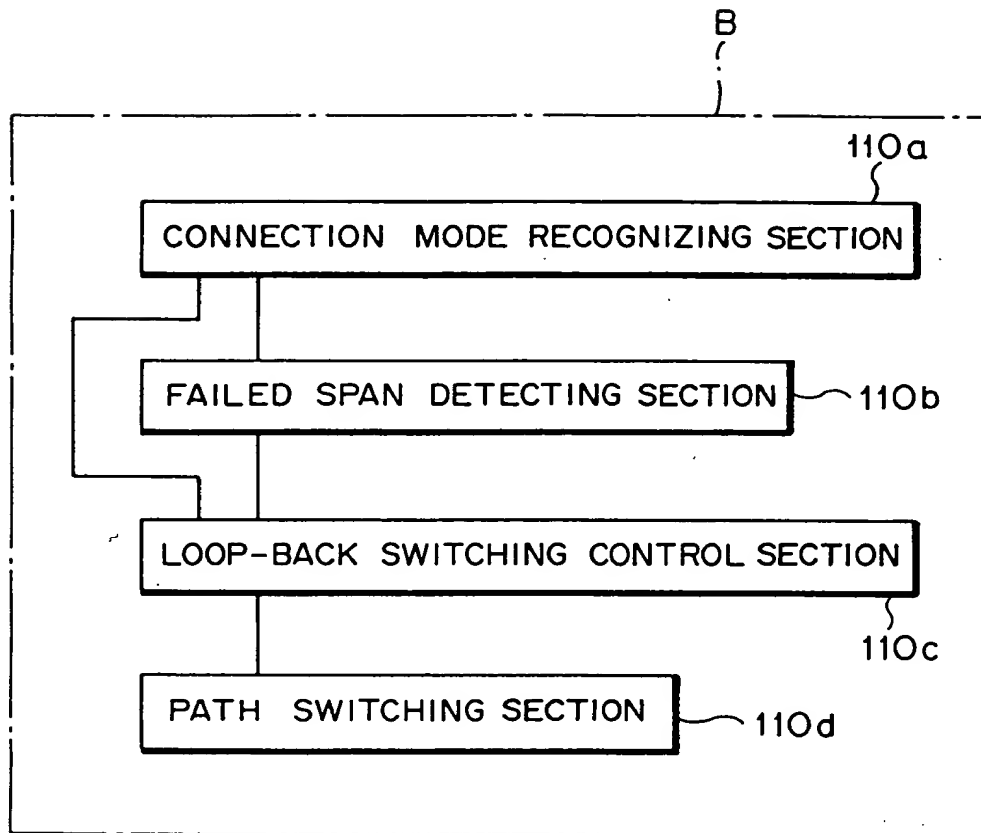


FIG.19(a)

- RING MAP OF B NODE (NODE ID = 8)

EAST
→
WEST

NODE NAME	B	C	D	E	F	A
NODE ID	8	3	1	5	9	6

FIG.19(b)

- RING MAP OF C NODE (NODE ID = 3)

EAST
→
WEST

NODE NAME	C	D	E	F	A	B
NODE ID	3	1	5	9	6	8

FIG. 20

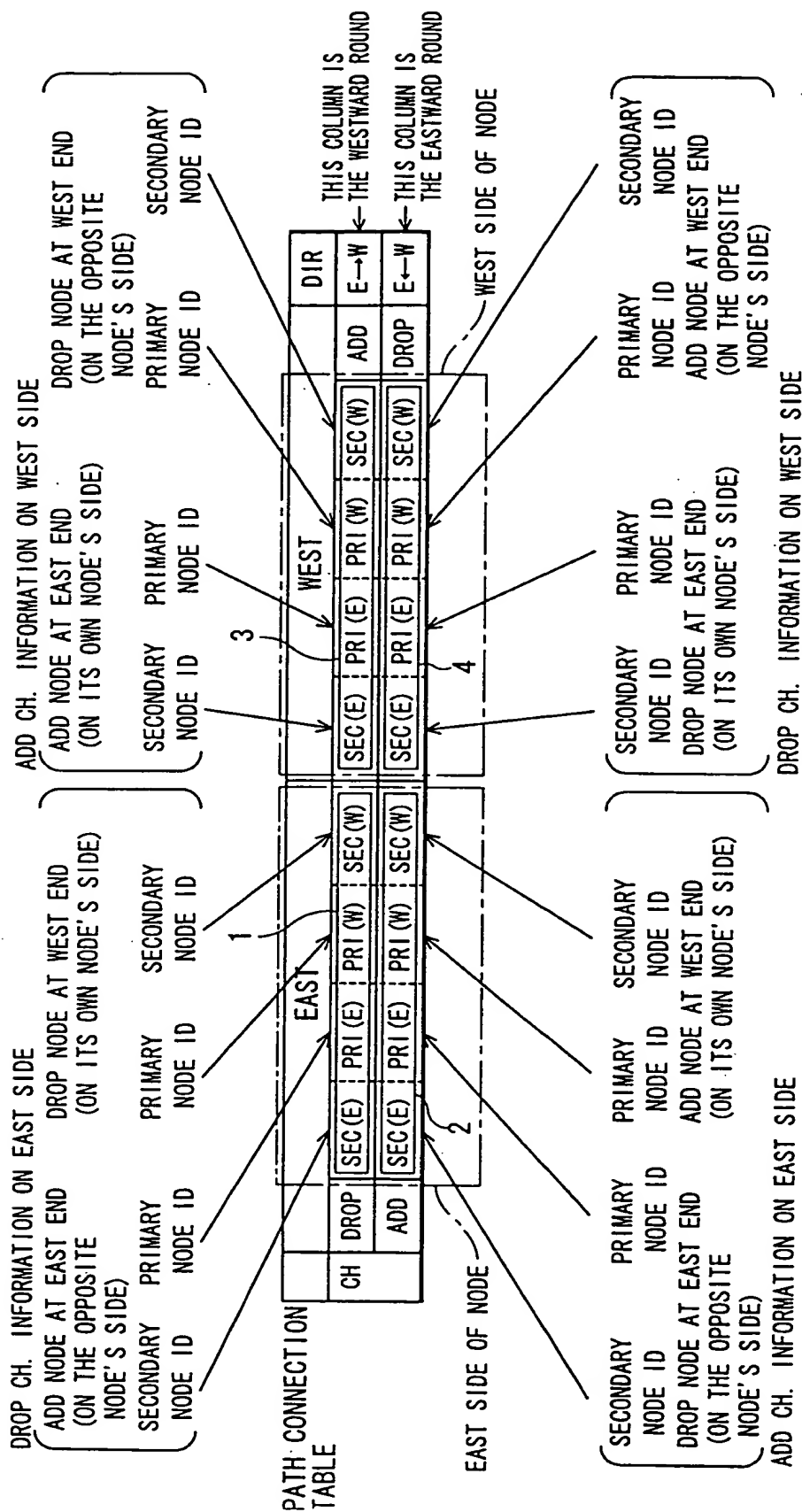


FIG. 12

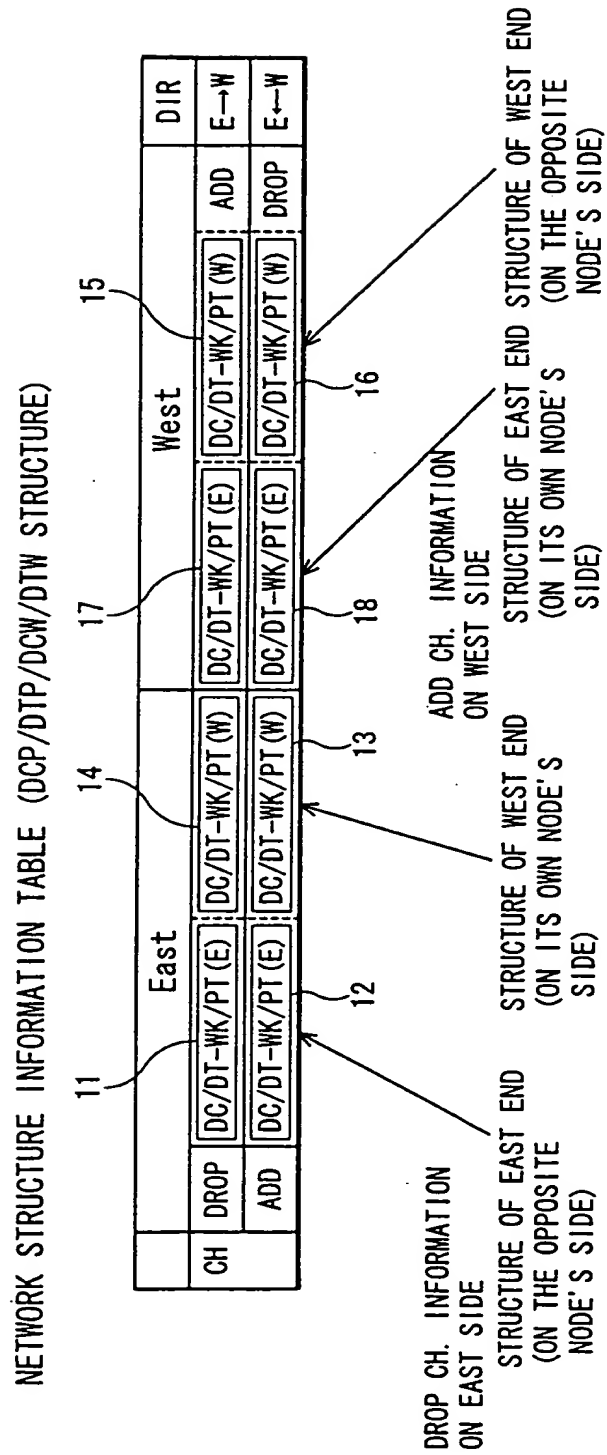


FIG. 22

FAILURE DETECTION PATTERNS AND OPERATIONS OF NODES (IN THE CASE
OF DCP)

	Failure detection pattern	Operation of primary node	Operation of secondary node	Corresponding basic operation
a	Failure in working line involving primary node	Only DROP, stop service selector	Access to PTCT line in the opposite direction	(2-α)
b	Failure in working line not involving primary node	Same the above	Access to PTCT line in the opposite direction, set "drop & continue" ¹⁾ , set service selector ¹⁾	(2-γ)
c	Failure in protection line in the single-sided	Same the above	Stop access to PCA	(1)
d	Failure in a (another) span through which no signal passes	Same the above	Same the above	(1)
e	Failure in protection line in the double-sided	Same the above	Access to PTCT line in the opposite direction	Exception

Comment 1) Operating "drop & continue" and "service selector" at secondary node is Optional Enhanced Operation (GR-1230, Issue 3, Fig. 3-43).

Comment 2) Pattern only in double-sided DCP.

Note) Contents of c and d are equivalent.

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FIG. 23

FAILURE DETECTION PATTERNS AND OPERATIONS OF NODES (IN THE CASE OF DTP)

	Failure detection pattern	Operation of terminal node	Operation of secondary node	Corresponding basic operation
a	Failure in working line involving primary node	Stop bridging to PTCT, stop path-switching	Access to PTCT line in the forward direction	(2- α)
b	Failure in working line not involving primary node	Same the above	Access to PTCT line in the forward direction, set "drop & continue" ¹⁾ , set service selector ¹⁾	(2- γ)
c	Failure in protection line	Same the above	Stop access to PCA	(1)
d	Failure in a (another) span through which no signal passes	Same the above	Same the above	(1)

Comment 1) Operating "drop & continue" and "service selector" at secondary node is Optional Enhanced Operation (GR-1230, Issue 3, Fig. 3-43).

Note) Contents of c and d are equivalent.

Note) Operation of secondary node is to access to PTCT line in the opposite direction in DCP, but to access in the forward direction (direction in which the secondary node originally accesses) in DTP.

FIG. 24(a)

DCP

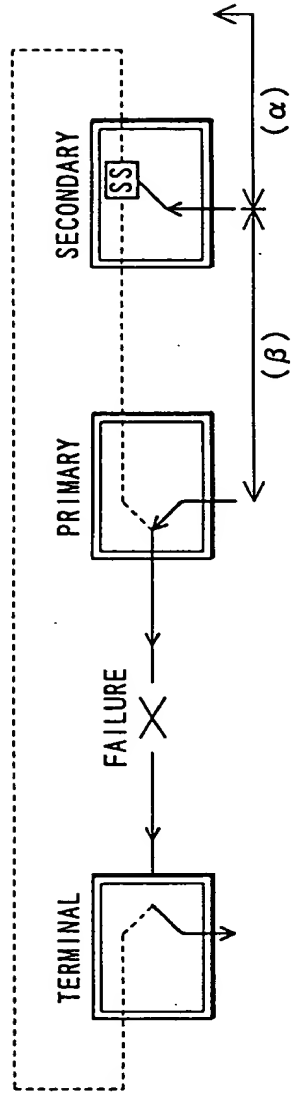


FIG. 24(b)

DTP

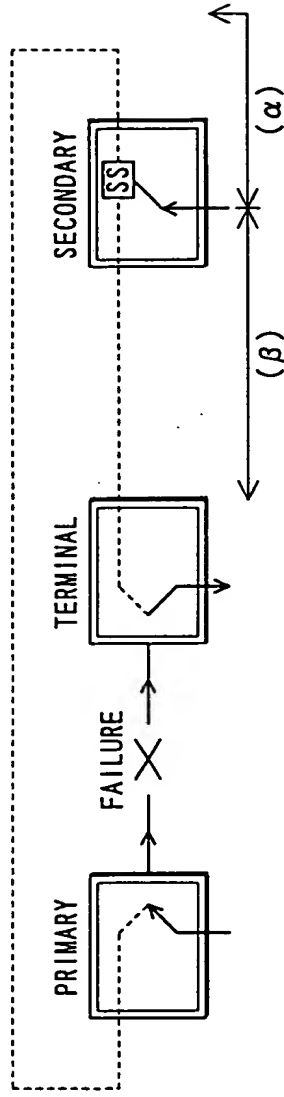


FIG. 24(c)

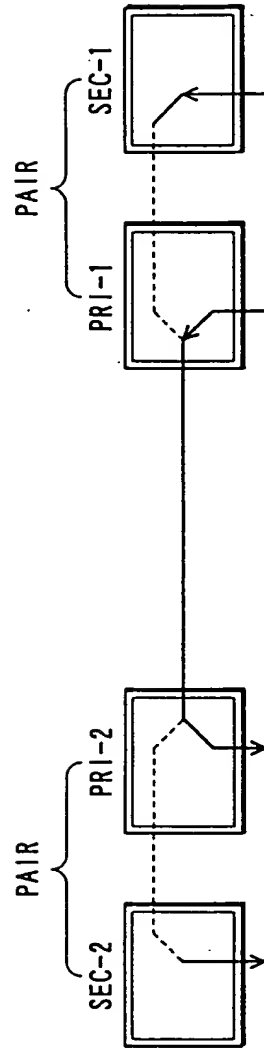
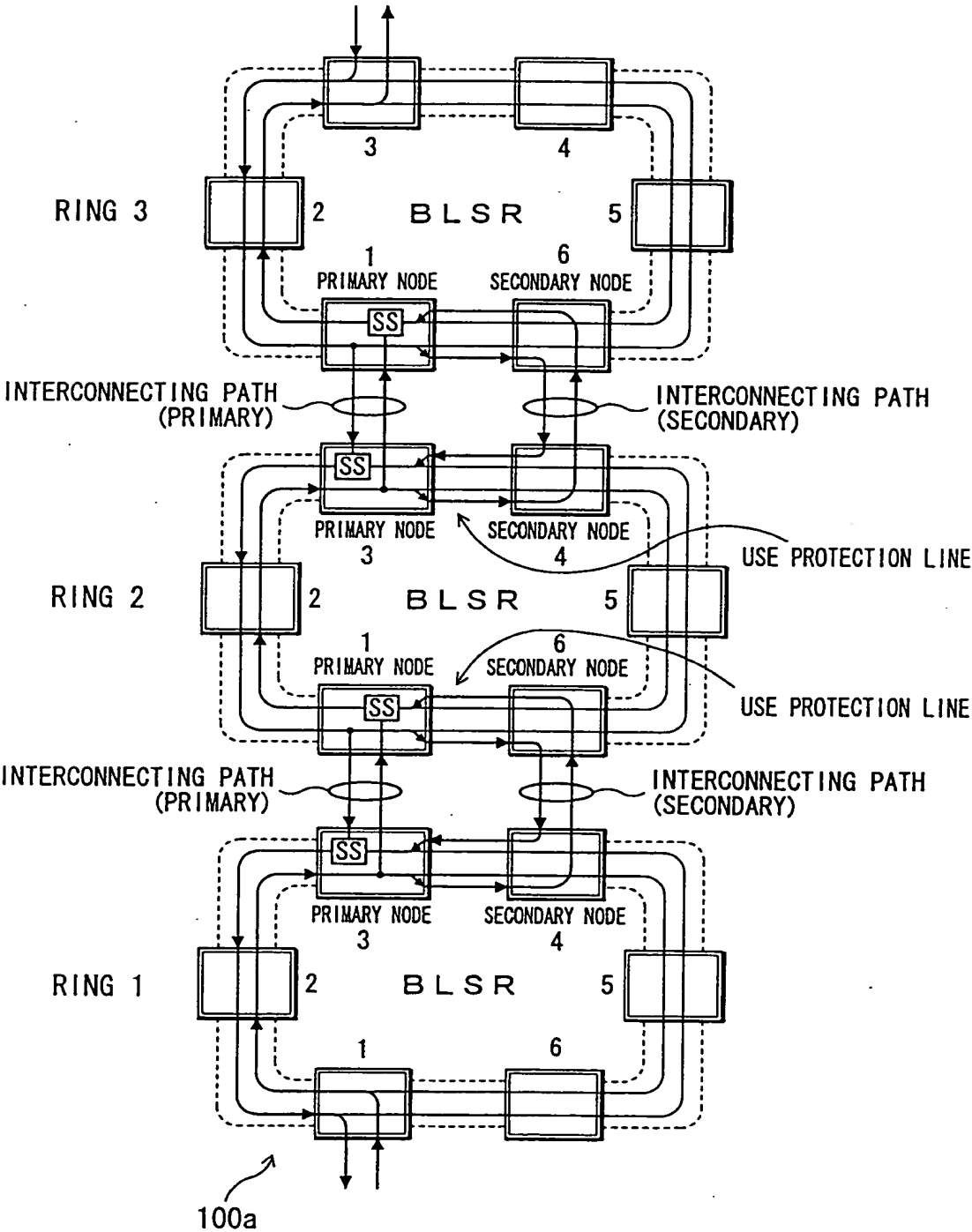


FIG. 25

DCP-DCP (DOUBLE-SIDED DCP) STRUCTURE



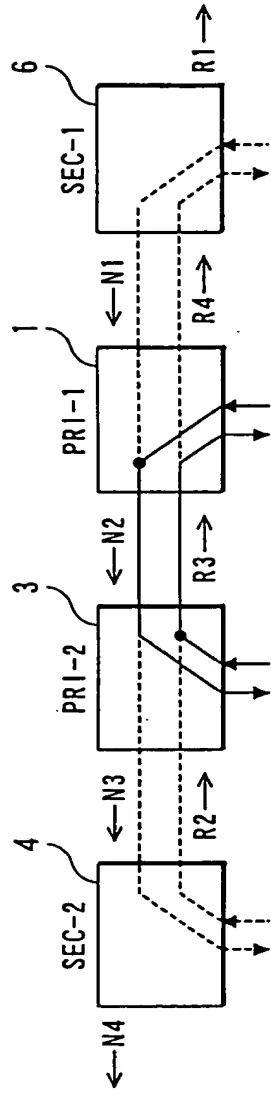


FIG. 26(a)

NORMAL OPERATION

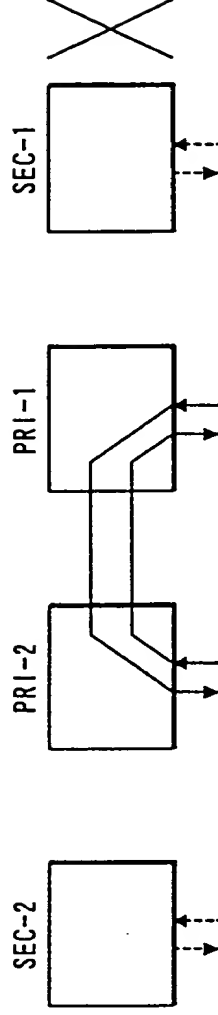


FIG. 26(b)

FAILURE POSITION LOOKED
FROM SEC-1 N4-R1
FAILURE POSITION LOOKED
FROM PRI-1 N4-R1

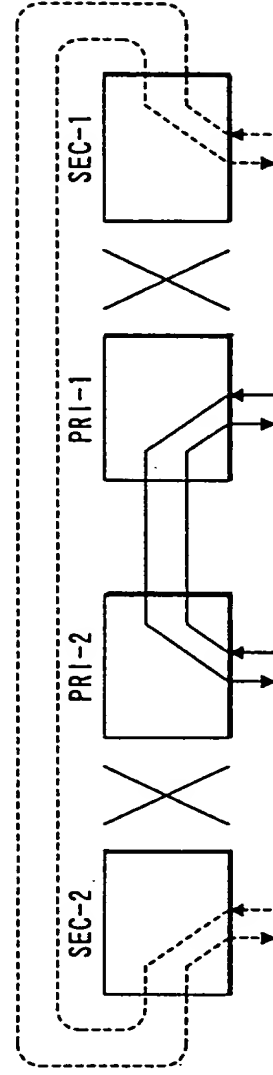


FIG. 26(c)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R4

FIG. 27(a)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R3
FAILURE POSITION LOOKED
FROM PRI-1 N2-R4

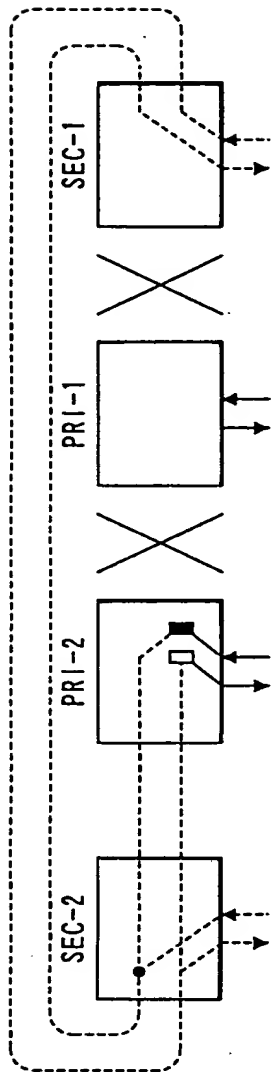


FIG. 27(b)

FAILURE POSITION LOOKED
FROM SEC-1 N2-R3
FAILURE POSITION LOOKED
FROM PRI-1 N2-R3

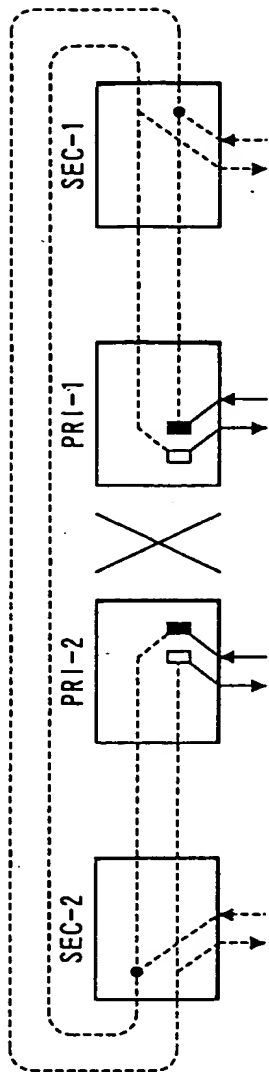


FIG. 27(c)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R4
FAILURE POSITION LOOKED
FROM PRI-1 N1-R4

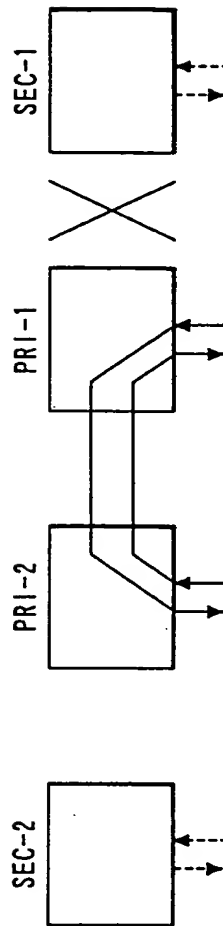


FIG. 28

DCP-DCW STRUCTURE

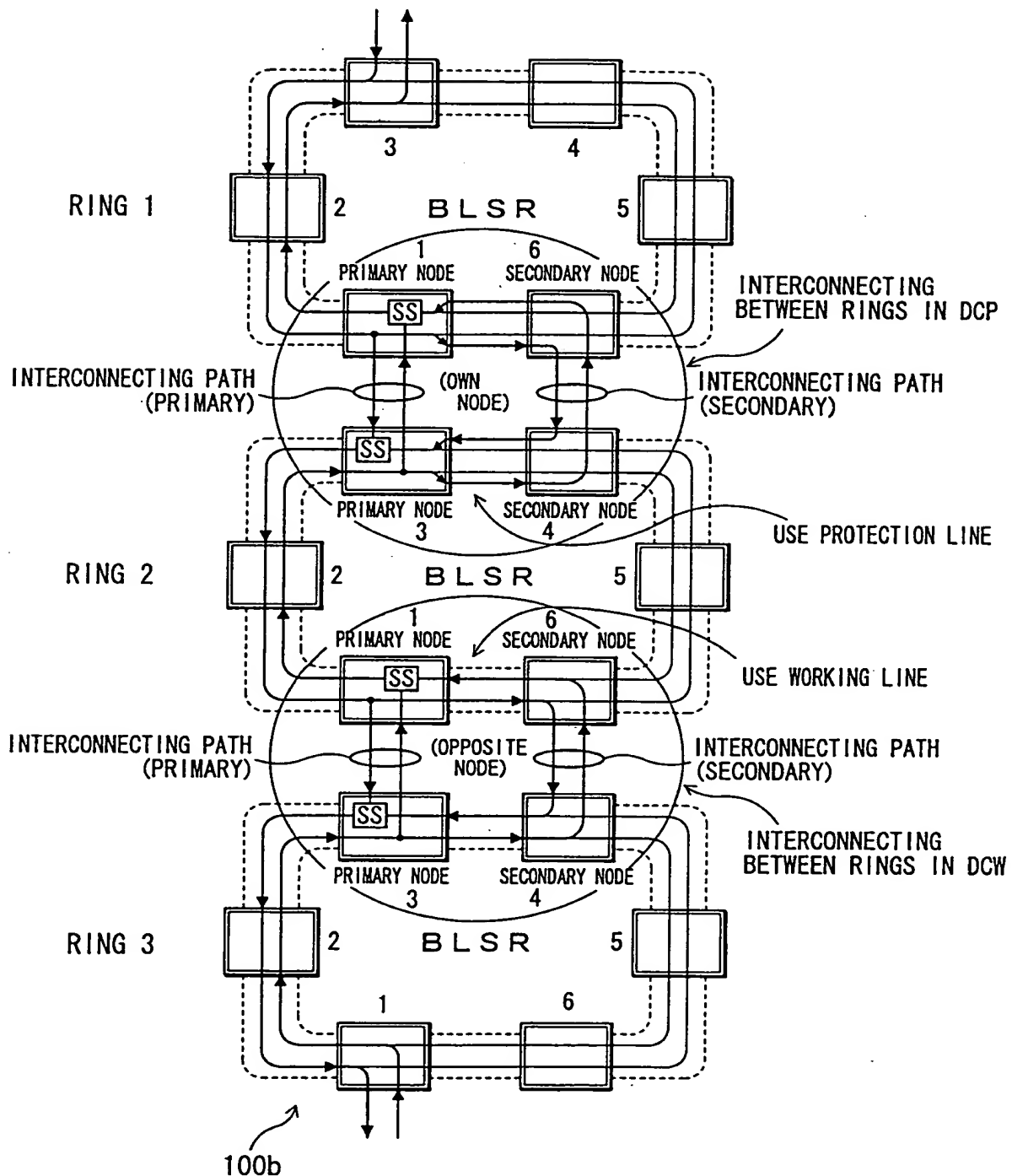


FIG. 29(a)

NORMAL OPERATION

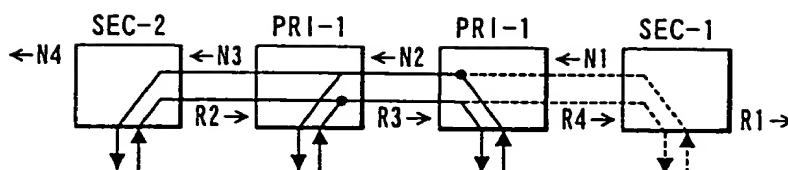


FIG. 29(b)

FAILURE POSITION LOOKED
FROM SEC-1 N4-R1
FAILURE POSITION LOOKED
FROM PRI-1 N4-R1

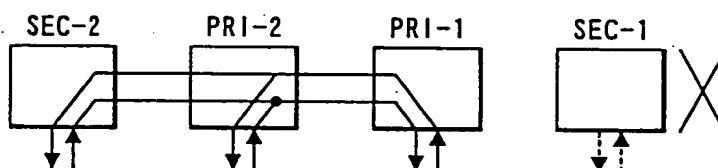


FIG. 29(c)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R4

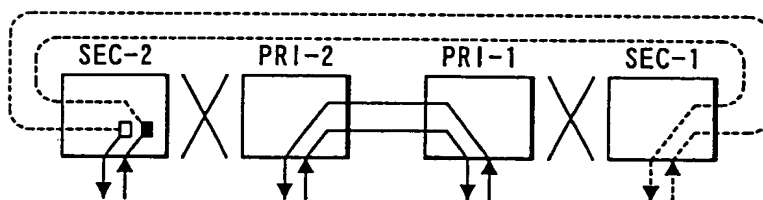


FIG. 29(d)

FAILURE POSITION LOOKED
FROM SEC-1 N2-R2
FAILURE POSITION LOOKED
FROM PRI-1 N2-R2

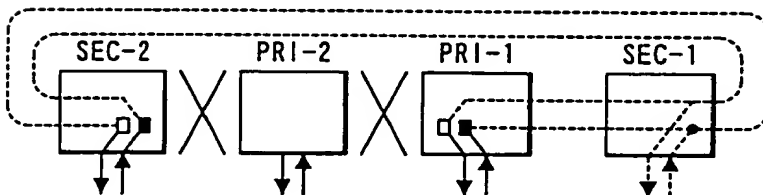


FIG. 29(e)

FAILURE POSITION LOOKED
FROM SEC-1 N3-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R2

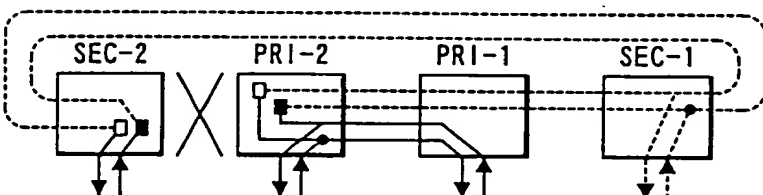


FIG. 30(a)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R3
FAILURE POSITION LOOKED
FROM PRI-1 N2-R4

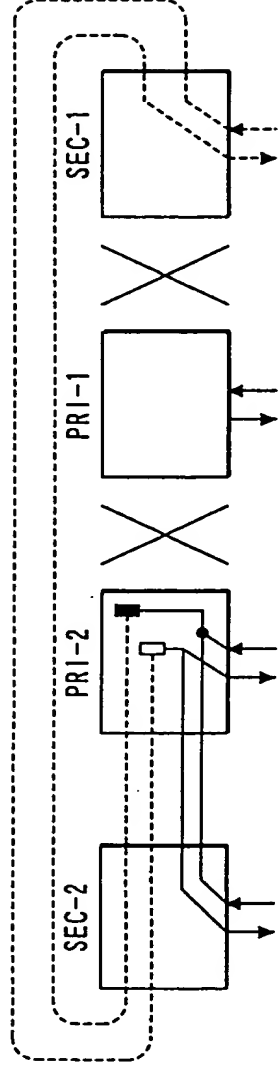


FIG. 30(b)

FAILURE POSITION LOOKED
FROM SEC-1 N2-R3
FAILURE POSITION LOOKED
FROM PRI-1 N2-R3

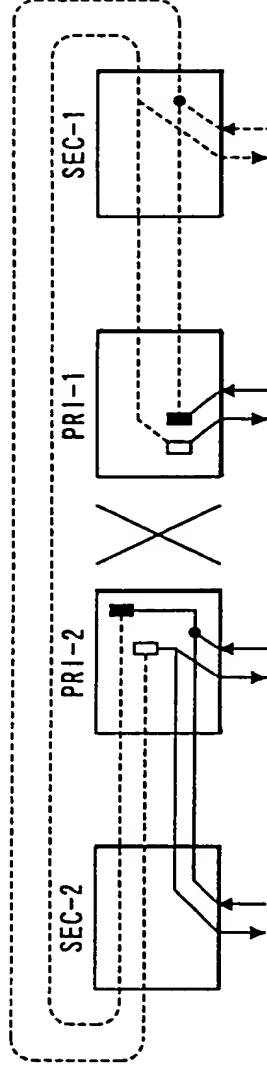


FIG. 30(c)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R4
FAILURE POSITION LOOKED
FROM PRI-1 N1-R4

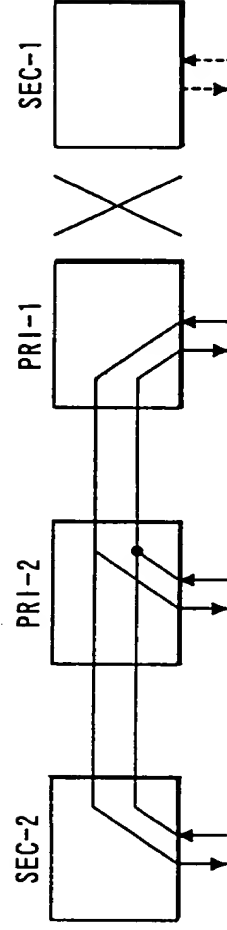


FIG. 31(a) NORMAL OPERATION

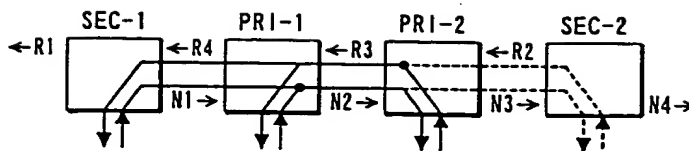


FIG. 31(b) FAILURE POSITION LOOKED FROM SEC-1 N1-R1
FAILURE POSITION LOOKED FROM PRI-1 N4-R4

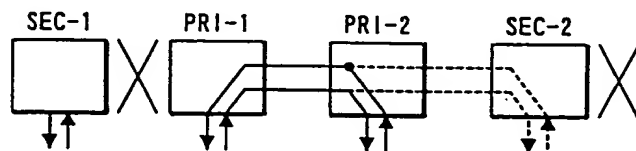


FIG. 31(c) FAILURE POSITION LOOKED FROM SEC-1 N2-R1
FAILURE POSITION LOOKED FROM PRI-1 N2-R1

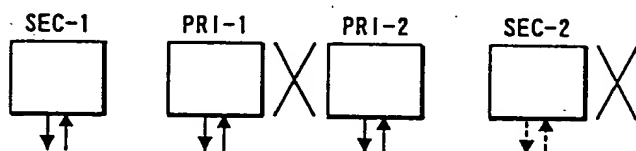


FIG. 31(d) FAILURE POSITION LOOKED FROM SEC-1 N3-R1
FAILURE POSITION LOOKED FROM PRI-1 N3-R1

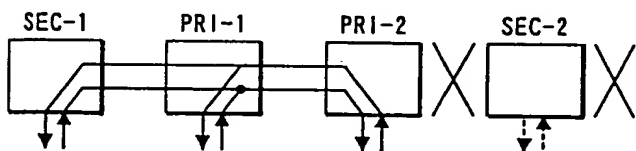


FIG. 31(e) FAILURE POSITION LOOKED FROM SEC-1 N4-R1
FAILURE POSITION LOOKED FROM PRI-1 N4-R1

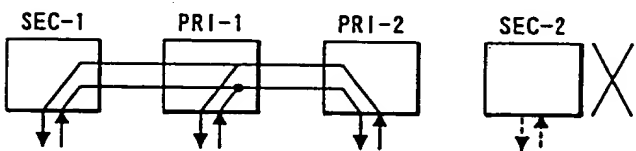


FIG. 31(f) FAILURE POSITION LOOKED FROM SEC-1 N1-R2
FAILURE POSITION LOOKED FROM PRI-1 N3-R4

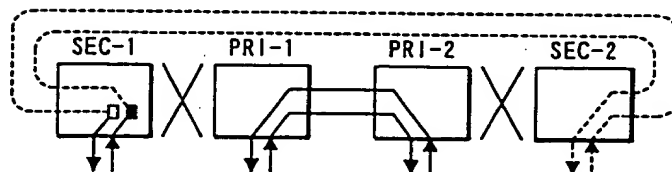


FIG. 31(g) FAILURE POSITION LOOKED FROM SEC-1 N2-R2
FAILURE POSITION LOOKED FROM PRI-1 N2-R2

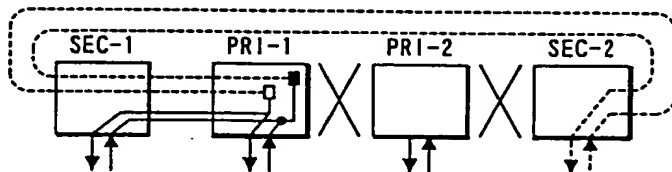


FIG. 31(h) FAILURE POSITION LOOKED FROM SEC-1 N3-R2
FAILURE POSITION LOOKED FROM PRI-1 N3-R2

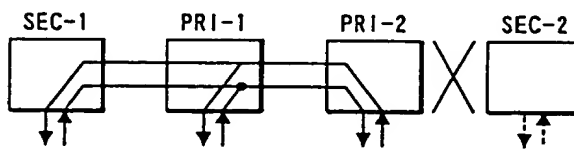
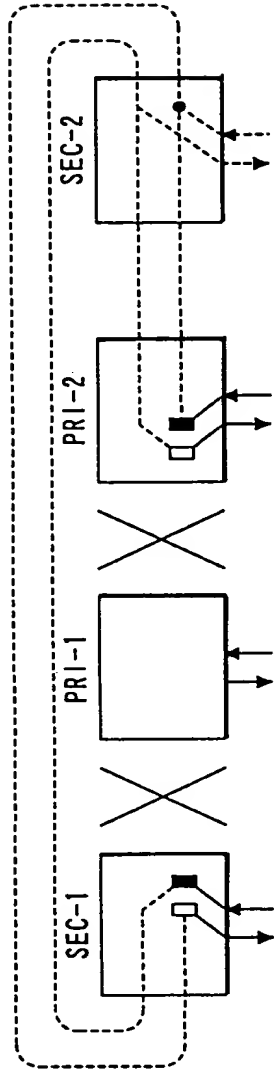
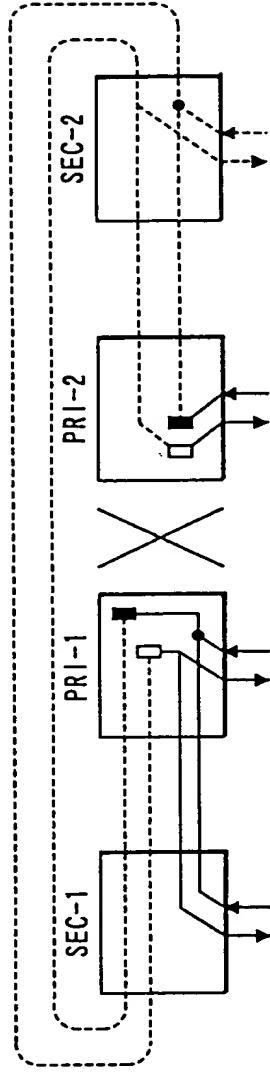


FIG. 32(a)



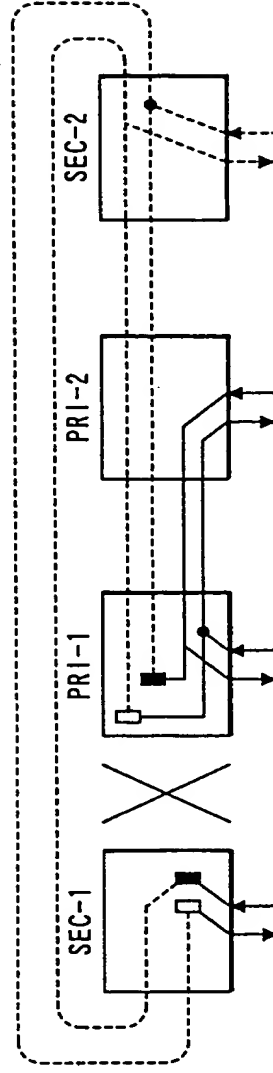
FAILURE POSITION LOOKED
FROM SEC-1 N1-R3
FAILURE POSITION LOOKED
FROM PRI-1 N2-R4

FIG. 32(b)



FAILURE POSITION LOOKED
FROM SEC-1 N2-R3
FAILURE POSITION LOOKED
FROM PRI-1 N2-R3

FIG. 32(c)



FAILURE POSITION LOOKED
FROM SEC-1 N1-R4
FAILURE POSITION LOOKED
FROM PRI-1 N1-R4

FIG. 33

DOUBLE-SIDED DCW STRUCTURE

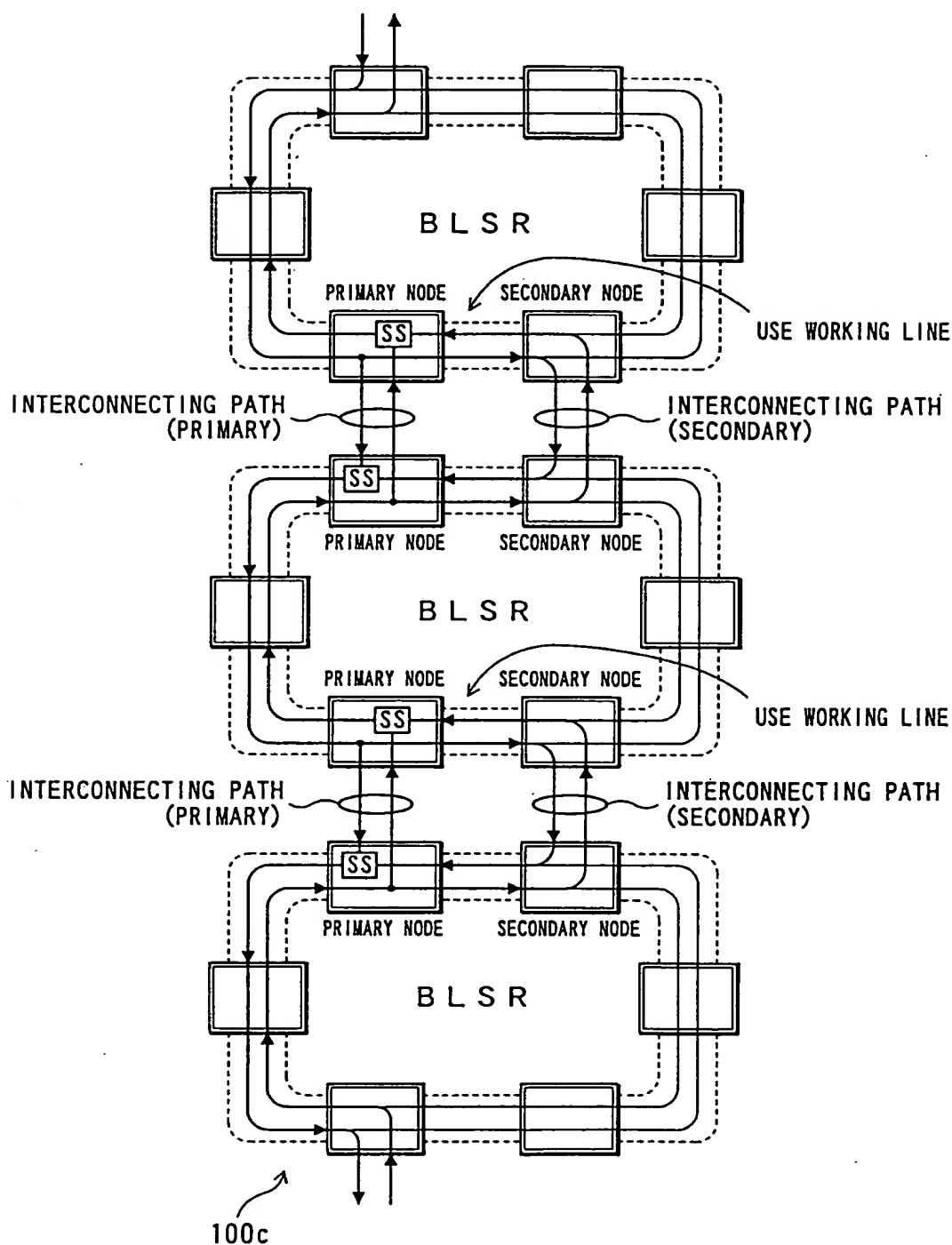


FIG. 34(a) NORMAL OPERATION

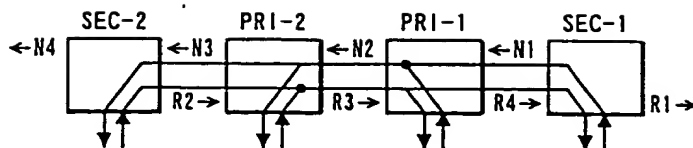


FIG. 34(b)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R1
FAILURE POSITION LOOKED
FROM PRI-1 N4-R4

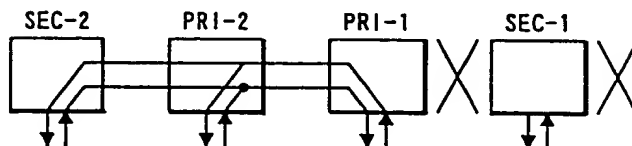


FIG. 34(c)

FAILURE POSITION LOOKED
FROM SEC-1 N2-R1
FAILURE POSITION LOOKED
FROM PRI-1 N2-R1

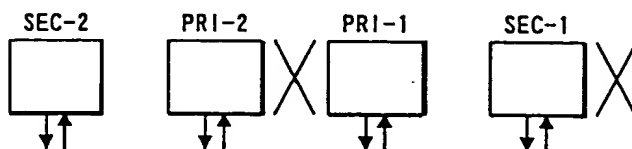


FIG. 34(d)

FAILURE POSITION LOOKED
FROM SEC-1 N4-R1
FAILURE POSITION LOOKED
FROM PRI-1 N3-R1

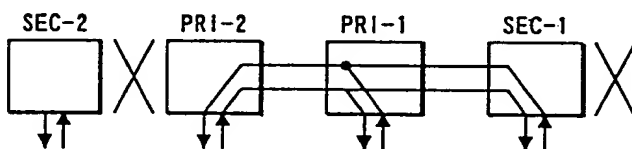


FIG. 34(e)

FAILURE POSITION LOOKED
FROM SEC-1 N4-R1
FAILURE POSITION LOOKED
FROM PRI-1 N4-R1

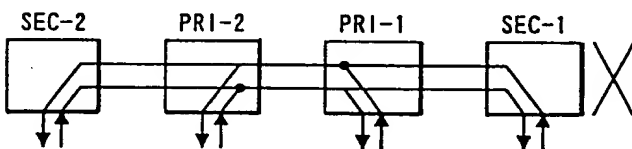


FIG. 34(f)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R4

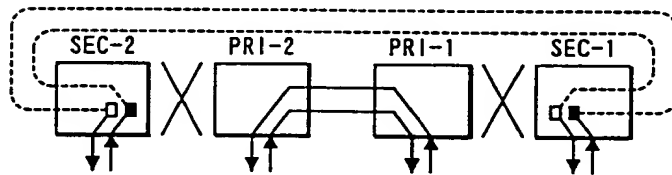


FIG. 34(g)

FAILURE POSITION LOOKED
FROM SEC-1 N2-R2
FAILURE POSITION LOOKED
FROM PRI-1 N2-R2

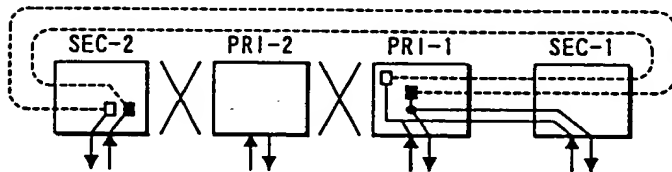


FIG. 34(h)

FAILURE POSITION LOOKED
FROM SEC-1 N3-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R2

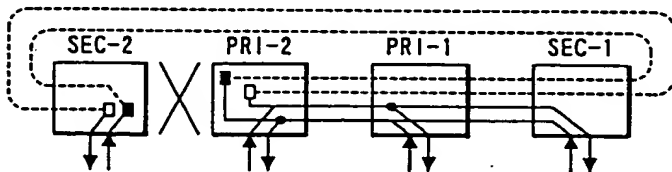


FIG. 35(a)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R3
FAILURE POSITION LOOKED
FROM PRI-1 N2-R4

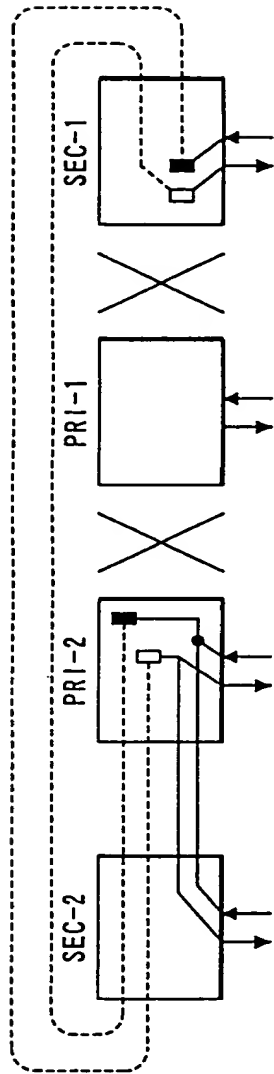


FIG. 35(b)

FAILURE POSITION LOOKED
FROM SEC-1 N2-R3
FAILURE POSITION LOOKED
FROM PRI-1 N2-R3

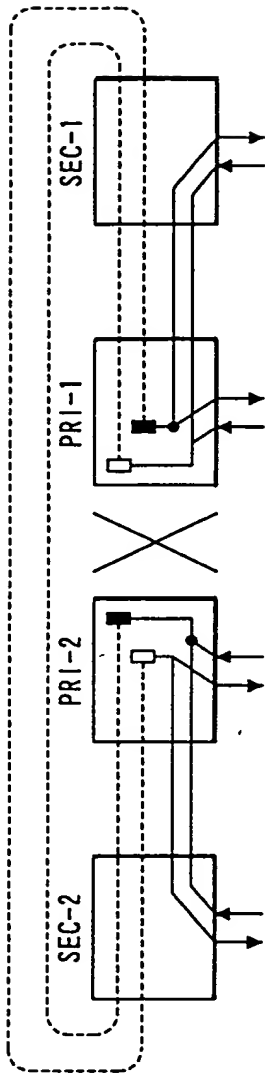
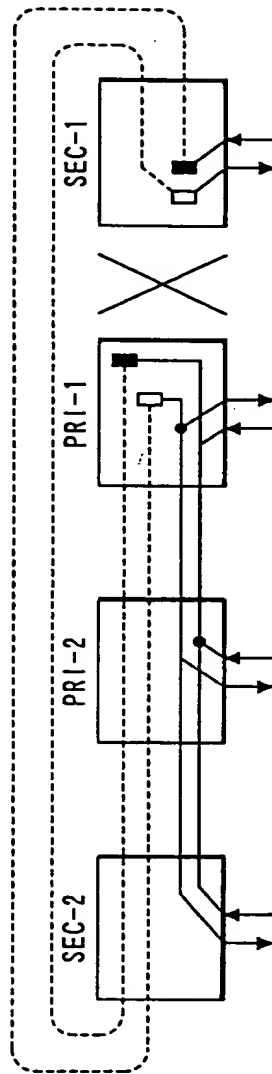


FIG. 35(c)

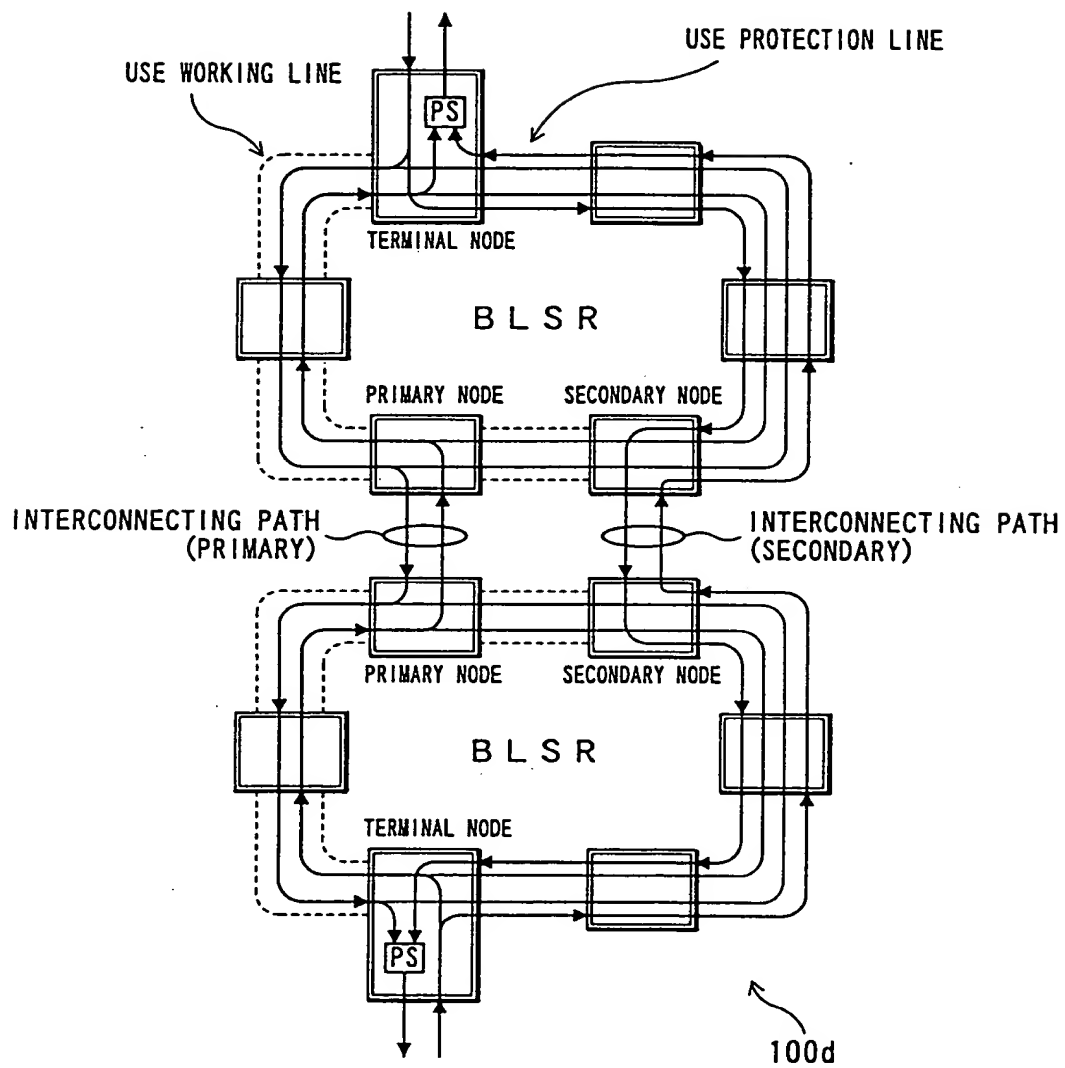
FAILURE POSITION LOOKED
FROM SEC-1 N1-R4
FAILURE POSITION LOOKED
FROM PRI-1 N1-R4



09695613-10400
004201-CT956960

FIG. 36

DTP STRUCTURE



FAILURE OPERATION PATTERNS IN DTP (NORMAL BLSR)

FIG. 37(a)

NORMAL OPERATION

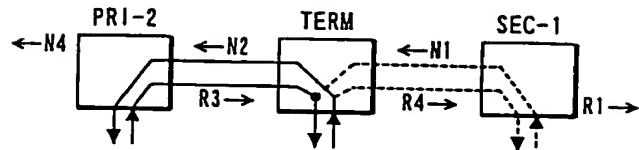


FIG. 37(b)

FAILURE POSITION LOOKED
FROM SEC-1 N2-R1
FAILURE POSITION LOOKED
FROM TERM N2-R1

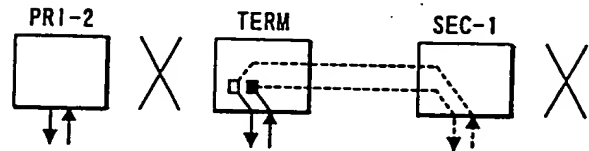


FIG. 37(c)

FAILURE POSITION LOOKED
FROM SEC-1 N2-R3
FAILURE POSITION LOOKED
FROM TERM N2-R3

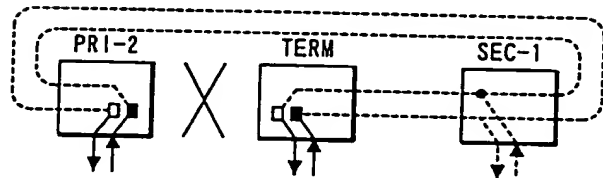


FIG. 37(d)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R4
FAILURE POSITION LOOKED
FROM TERM N1-R4

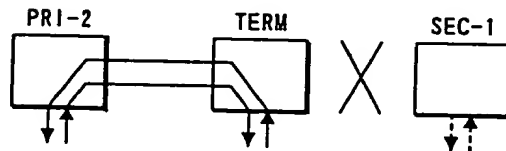


FIG. 37(e)

FAILURE POSITION LOOKED
FROM SEC-1 N4-R1
FAILURE POSITION LOOKED
FROM TERM N4-R1

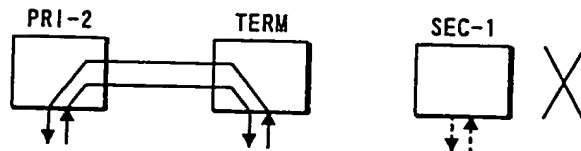


FIG. 38

SINGLE-SIDED DCP STRUCTURE

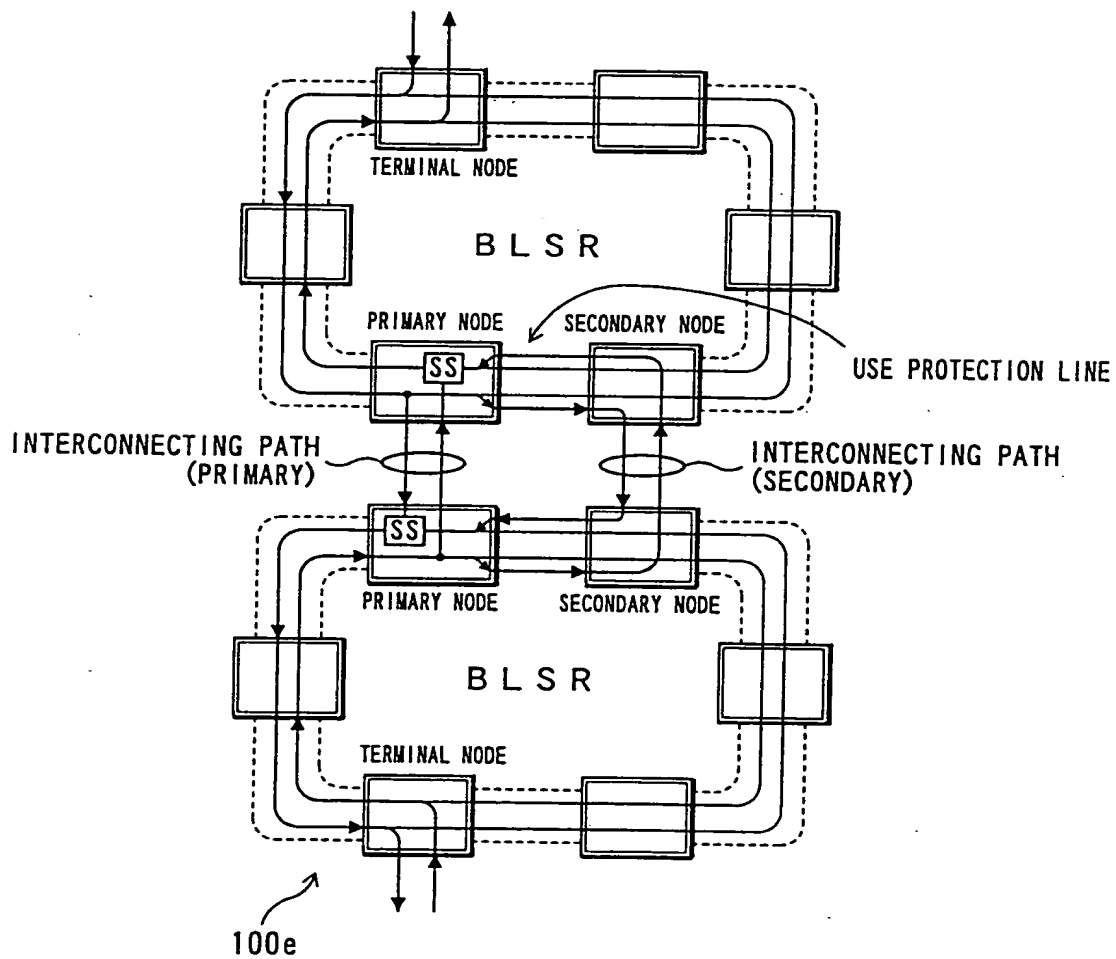


FIG. 39(a)

NORMAL OPERATION

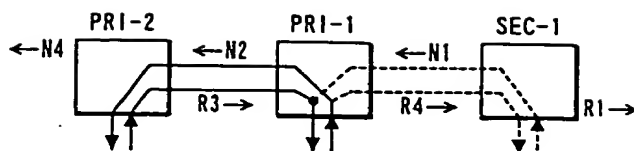


FIG. 39(b)

FAILURE POSITION LOOKED
FROM SEC-1 N4-R1
FAILURE POSITION LOOKED
FROM PRI-1 N4-R1

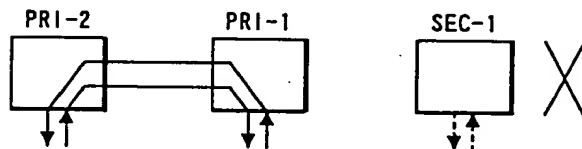


FIG. 39(c)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R3
FAILURE POSITION LOOKED
FROM PRI-1 N2-R4

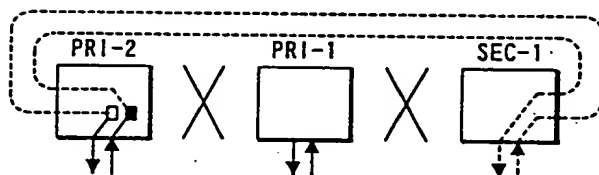


FIG. 39(d)

FAILURE POSITION LOOKED
FROM SEC-1 N2-R3
FAILURE POSITION LOOKED
FROM PRI-1 N2-R3

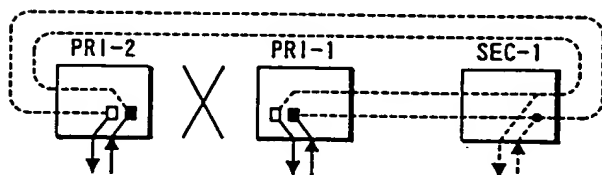


FIG. 39(e)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R4
FAILURE POSITION LOOKED
FROM PRI-1 N1-R4

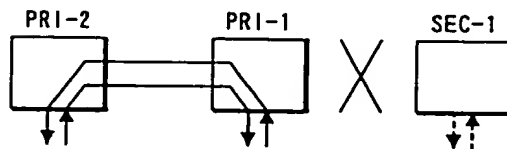


FIG. 40

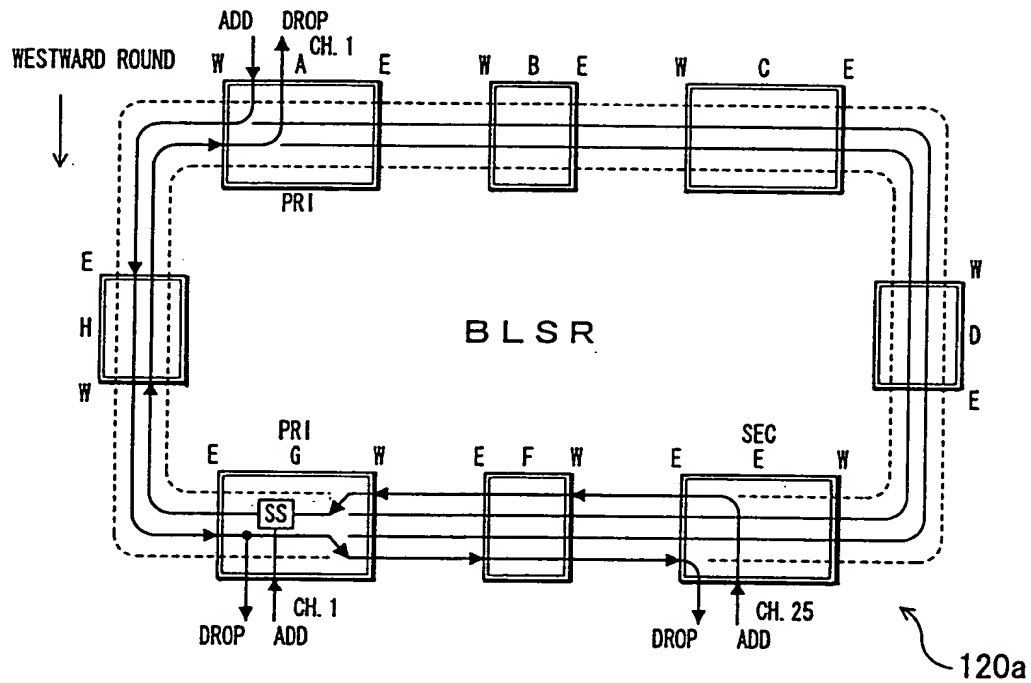
SINGLE-SIDED DCP STRUCTURE

NETWORK STRUCTURE[A] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-WK	DC-PT	ADD
ADD			DC-WK	DC-PT	DROP

PATH CONNECTION TABLE[A] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					A	A	G	E	ADD
ADD					A	A	G	E	DROP



NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-WK	DC-PT			ADD
ADD	DC-WK	DC-PT			DROP

PATH CONNECTION TABLE[G] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	A	A	G	E					ADD
ADD	A	A	G	E					DROP

NETWORK STRUCTURE[E] CH. 25

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-WK	DC-PT			ADD
ADD	DC-WK	DC-PT			DROP

PATH CONNECTION TABLE[E] CH. 25

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	A	A	G	E					ADD
ADD	A	A	G	E					DROP

FIG. 41

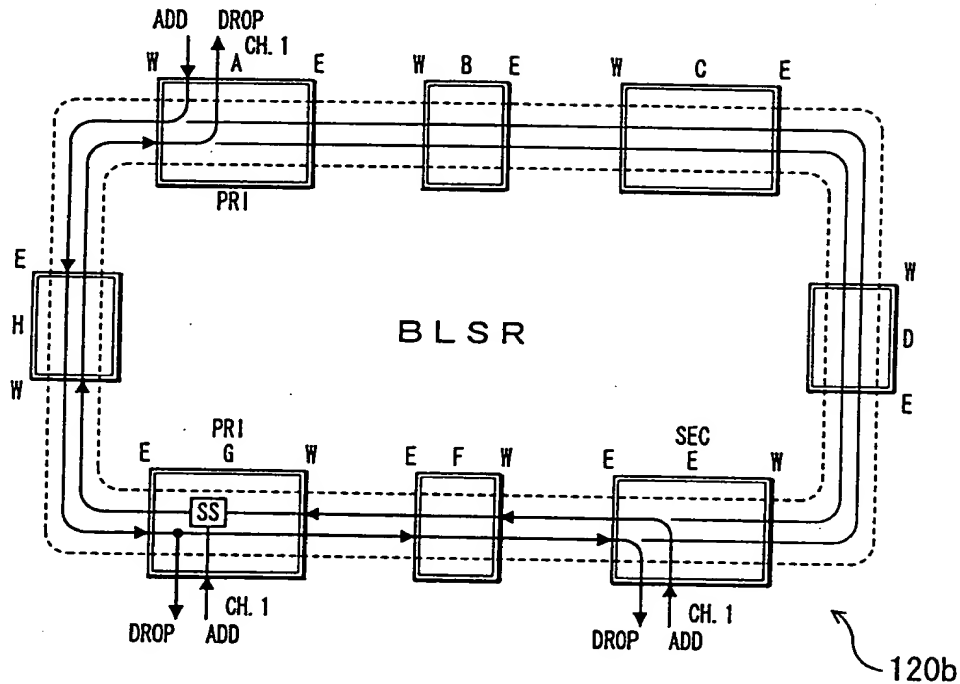
SINGLE-SIDED DCW STRUCTURE

NETWORK STRUCTURE[A] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-WK	DC-WK	ADD
ADD			DC-WK	DC-WK	DROP

PATH CONNECTION TABLE[A] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					A	A	G	E	ADD
ADD					A	A	G	E	DROP



NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-WK	DC-WK			ADD
ADD	DC-WK	DC-WK			DROP

PATH CONNECTION TABLE[G] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	A	A	G	E					ADD
ADD	A	A	G	E					DROP

NETWORK STRUCTURE[E] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-WK	DC-WK			ADD
ADD	DC-WK	DC-WK			DROP

PATH CONNECTION TABLE[E] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	A	A	G	E					ADD
ADD	A	A	G	E					DROP

FIG. 42

DCP-DCP STRUCTURE

NETWORK STRUCTURE[A] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-PT	DC-PT	ADD
ADD			DC-PT	DC-PT	DROP

PATH CONNECTION TABLE[A] CH. 1

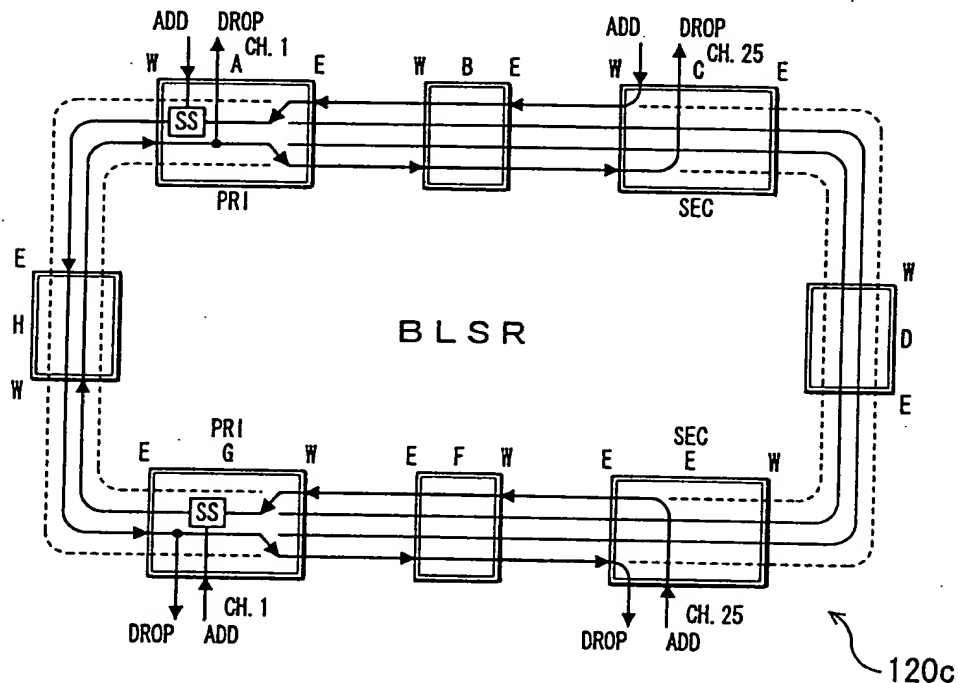
	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					C	A	G	E	ADD
ADD					C	A	G	E	DROP

NETWORK STRUCTURE[G] CH. 25

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-PT	DC-PT	ADD
ADD			DC-PT	DC-PT	DROP

PATH CONNECTION TABLE[C] CH. 25

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					C	A	G	E	ADD
ADD					C	A	G	E	DROP



NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-PT	DC-PT			ADD
ADD	DC-PT	DC-PT			DROP

PATH CONNECTION TABLE[G] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	C	A	G	E					ADD
ADD	C	A	G	E					DROP

NETWORK STRUCTURE[E] CH. 25

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-PT	DC-PT			ADD
ADD	DC-PT	DC-PT			DROP

PATH CONNECTION TABLE[E] CH. 25

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	C	A	G	E					ADD
ADD	C	A	G	E					DROP

FIG. 45

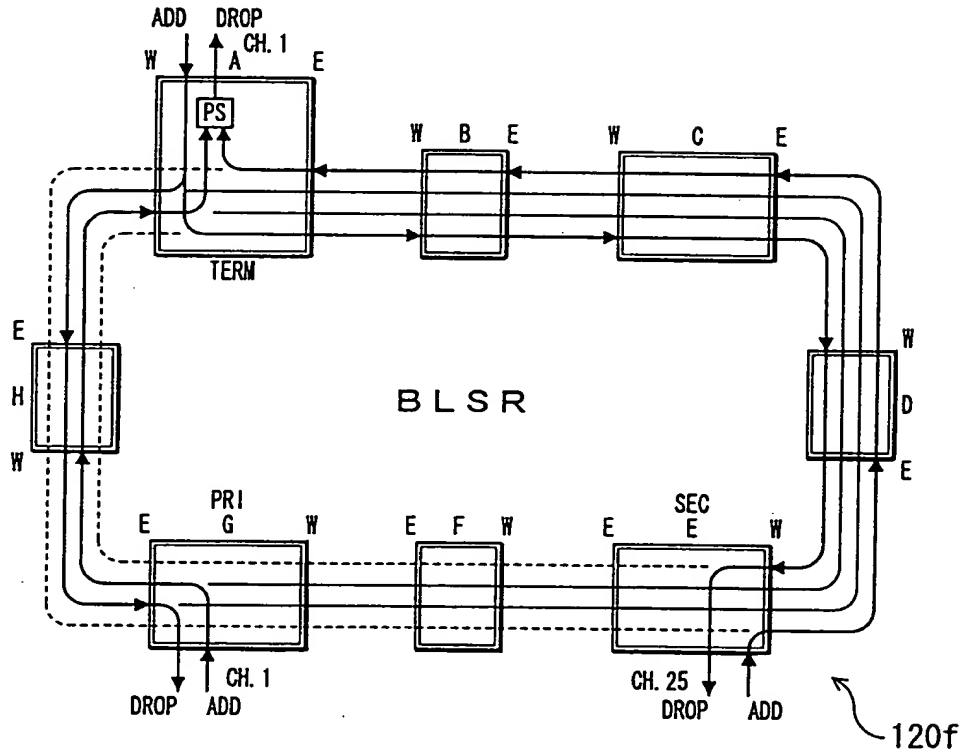
DTP STRUCTURE

NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DT-PT	DT-WK	ADD
ADD			DT-PT	DT-WK	DROP

PATH CONNECTION TABLE[A] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					E	A	G	G	ADD
ADD					E	A	G	G	DROP



NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DT-PT	DT-WK			ADD
ADD	DT-PT	DT-WK			DROP

PATH CONNECTION TABLE[G] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	E	A	G	G					ADD
ADD	E	A	G	G					DROP

NETWORK STRUCTURE[E] CH. 25

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DT-PT	DT-WK	ADD
ADD			DT-PT	DT-WK	DROP

PATH CONNECTION TABLE[E] CH. 25

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					E	A	G	G	ADD
ADD					E	A	G	G	DROP

FIG. 46

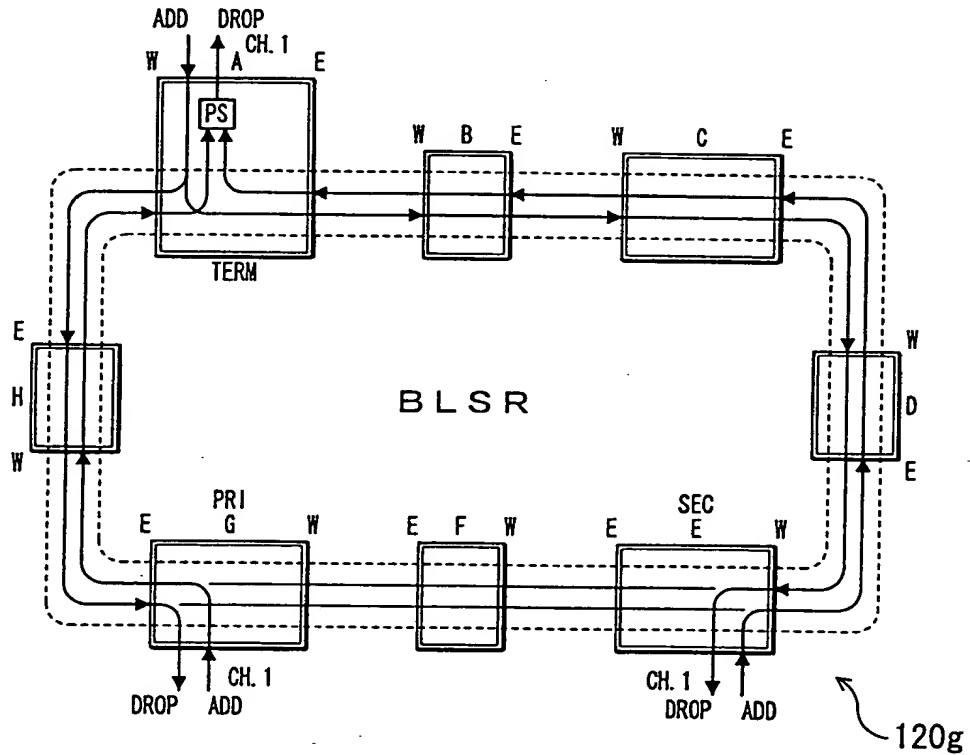
DTW STRUCTURE

NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DT-WK	DT-WK	ADD
ADD			DT-WK	DT-WK	DROP

PATH CONNECTION TABLE[A] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					E	A	G	G	ADD
ADD					E	A	G	G	DROP



NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DT-WK	DT-WK			ADD
ADD	DT-WK	DT-WK			DROP

PATH CONNECTION TABLE[G] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	E	A	G	G					ADD
ADD	E	A	G	G					DROP

NETWORK STRUCTURE[E] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DT-WK	DT-WK	ADD
ADD			DT-WK	DT-WK	DROP

PATH CONNECTION TABLE[E] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					E	A	G	G	ADD
ADD					E	A	G	G	DROP

FIG. 47

DCP-DCP STRUCTURE

NETWORK STRUCTURE[A] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-PT	DC-PT	ADD
ADD			DC-PT	DC-PT	DROP

PATH CONNECTION TABLE[A] CH. 1

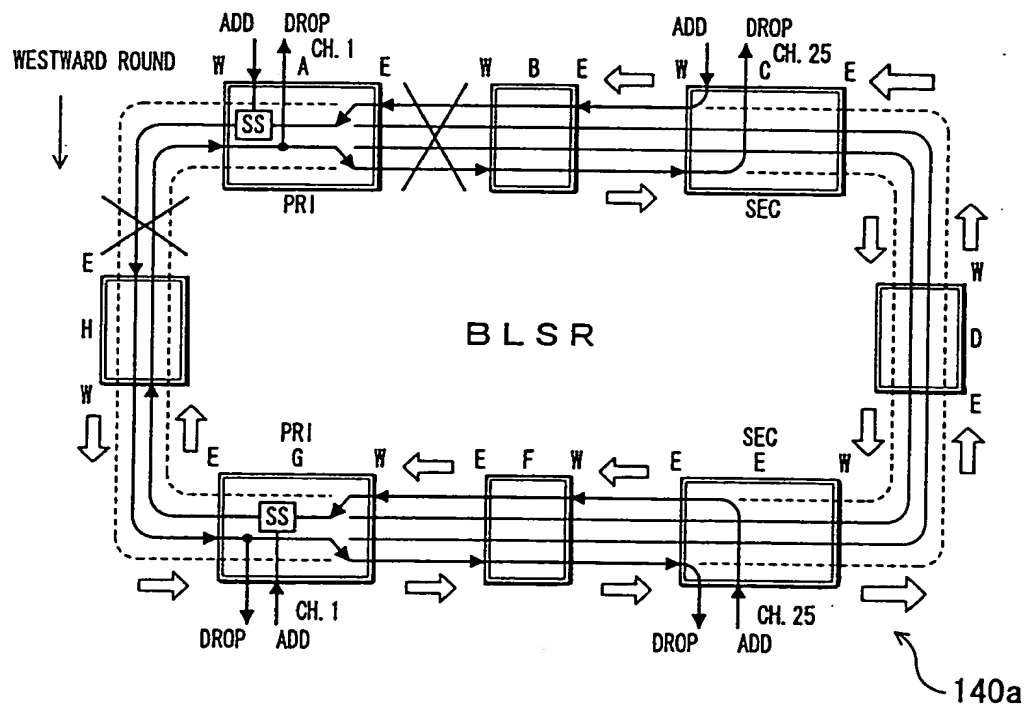
	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					C	A	G	E	ADD
ADD					C	A	G	E	DROP

NETWORK STRUCTURE[C] CH. 25

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-PT	DC-PT	ADD
ADD			DC-PT	DC-PT	DROP

PATH CONNECTION TABLE[C] CH. 25

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					C	A	G	E	ADD
ADD					C	A	G	E	DROP



NETWORK STRUCTURE[G] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-PT	DC-PT			ADD
ADD	DC-PT	DC-PT			DROP

PATH CONNECTION TABLE[G] CH. 1

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	C	A	G	E					ADD
ADD	C	A	G	E					DROP

NETWORK STRUCTURE[E] CH. 25

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-PT	DC-PT			ADD
ADD	DC-PT	DC-PT			DROP

PATH CONNECTION TABLE[E] CH. 25

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	C	A	G	E					ADD
ADD	C	A	G	E					DROP

FIG. 49(a)

NORMAL STATE

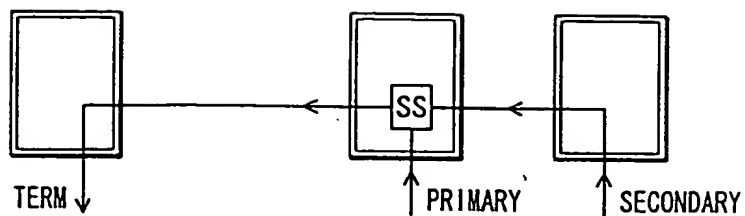


FIG. 49(b)

AT THE TIME OF FAILURE OCCURRENCE

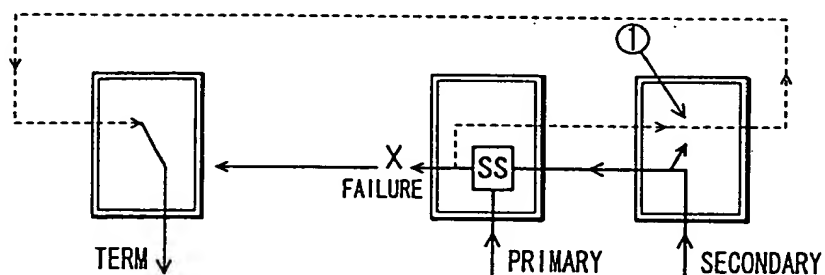


FIG. 49(c)

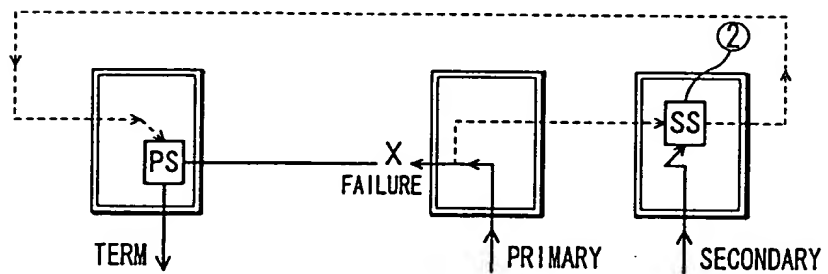


FIG. 49(d)

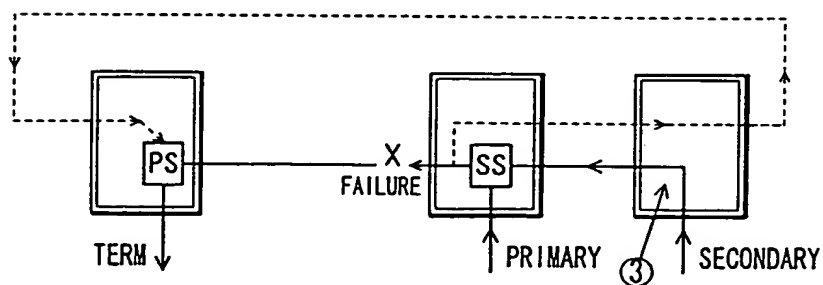


FIG. 50(a)

NORMAL STATE

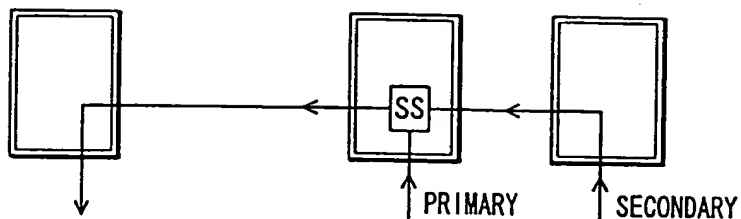


FIG. 50(b)

AT THE TIME OF FAILURE OCCURRENCE

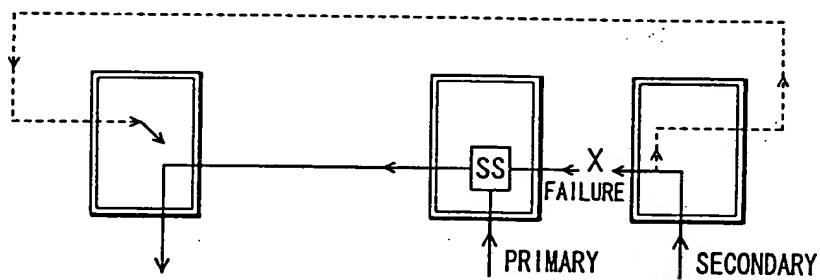
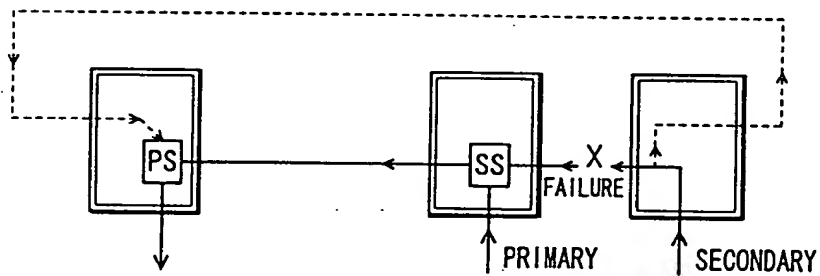


FIG. 50(c)

RESTORATION MEASURE



PATH SWITCH FUNCTION IS
NECESSARY HERE
(OPERATION AS A TERMINAL IN DTP)

FIG. 51(a)

NORMAL STATE

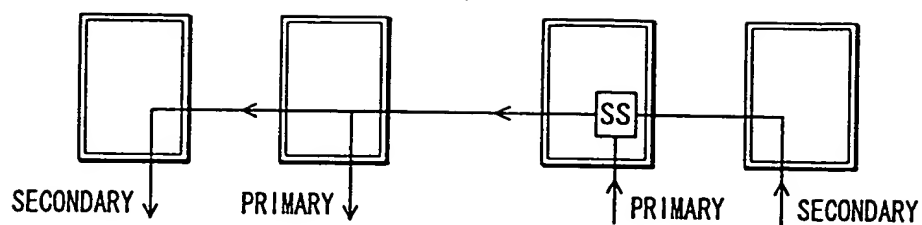


FIG. 51(b)

AT THE TIME OF FAILURE OCCURRENCE

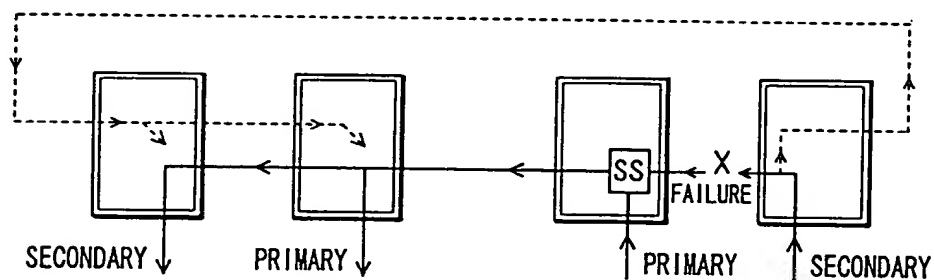


FIG. 51(c)

RESTORATION MEASURE

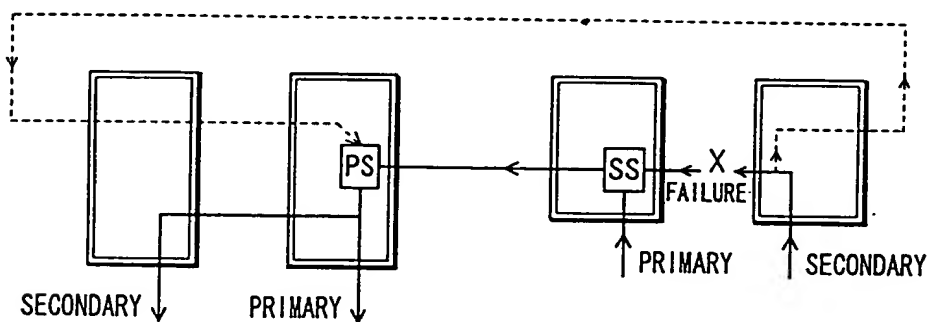


FIG. 52(a)

NORMAL OPERATION

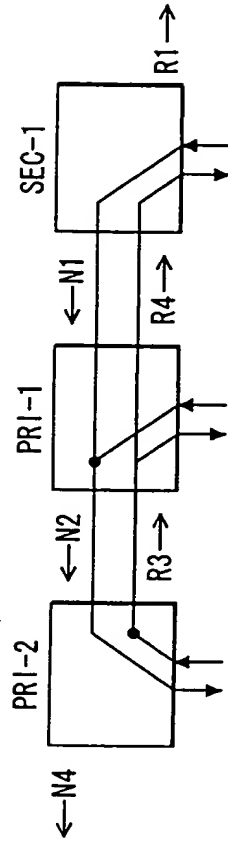


FIG. 52(b)

FAILURE POSITION LOOKED
FROM SEC-1 N1-R4
FAILURE POSITION LOOKED
FROM PRI-1 N1-R4

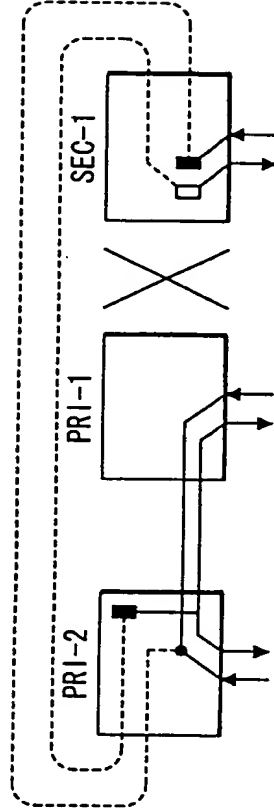
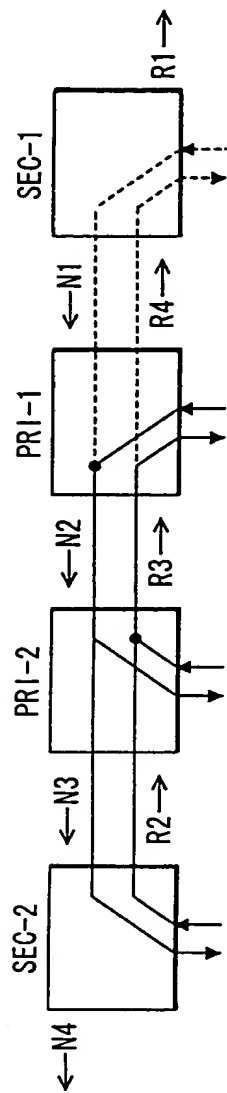
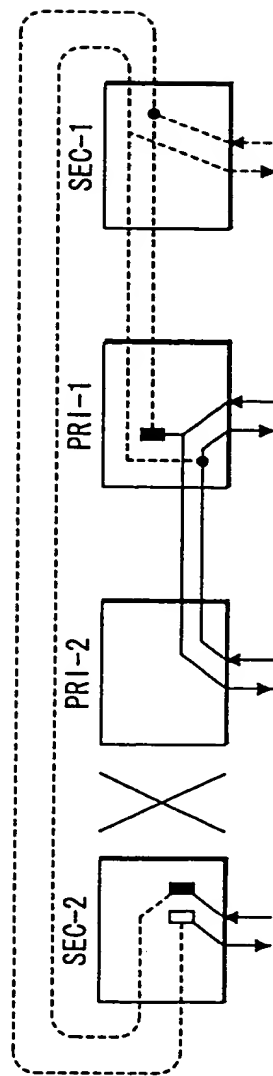


FIG. 53(a)



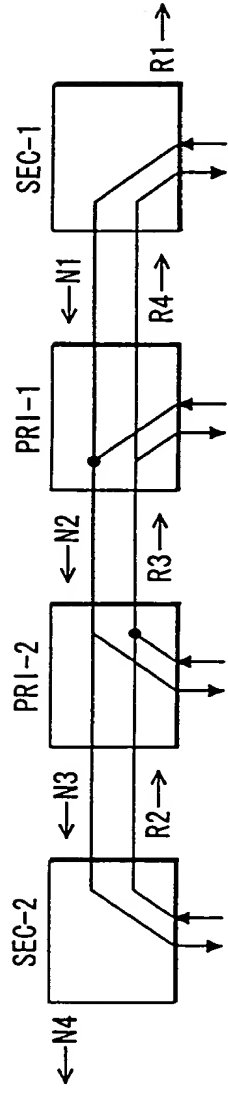
NORMAL OPERATION

FIG. 53(b)



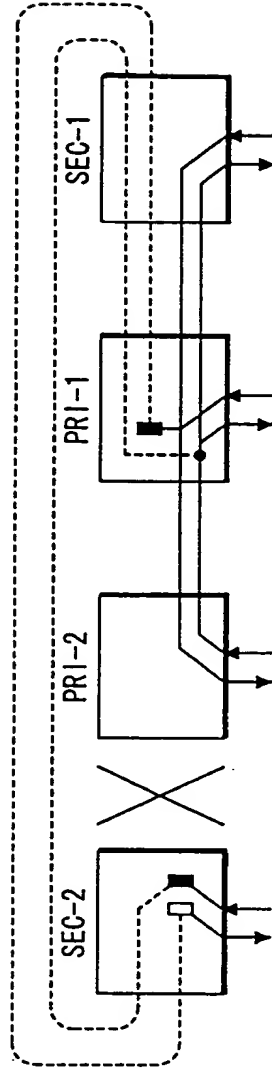
FAILURE POSITION LOOKED
FROM SEC-1 N3-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R2

FIG. 54(a)



NORMAL OPERATION

FIG. 54(b)



FAILURE POSITION LOOKED
FROM SEC-1 N3-R2
FAILURE POSITION LOOKED
FROM PRI-1 N3-R2

SECRET

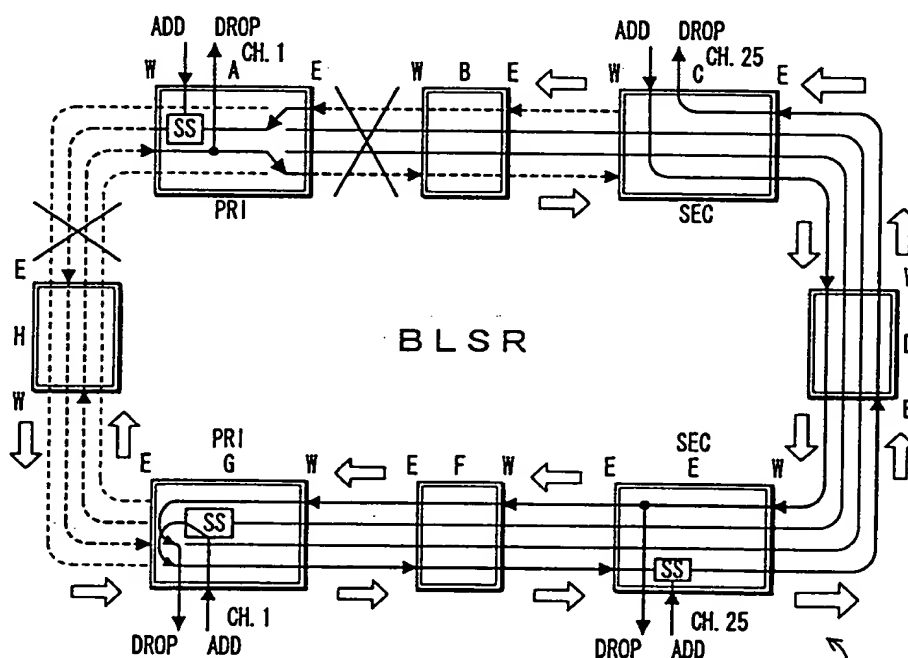
NETWORK STRUCTURE[A] CH. 1

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-PT	DC-PT	ADD
ADD			DC-PT	DC-PT	DROP

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					C	A	G	E	ADD
ADD					C	A	G	E	DROP

	EAST		WEST		
	E END	W END	E END	W END	
DROP			DC-PT	DC-PT	ADD
ADD			DC-PT	DC-PT	DROP

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP					C	A	G	E	ADD
ADD					C	A	G	E	DROP



	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-PT	DC-PT			ADD
ADD	DC-PT	DC-PT			DROP

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	C	A	G	E					ADD
ADD	C	A	G	E					DROP

	EAST		WEST		
	E END	W END	E END	W END	
DROP	DC-PT	DC-PT			ADD
ADD	DC-PT	DC-PT			DROP

	EAST				WEST				
	S-E	P-E	P-W	S-W	S-E	P-E	P-W	S-W	
DROP	C	A	G	E					ADD
ADD	C	A	G	E					DROP

FIG. 56

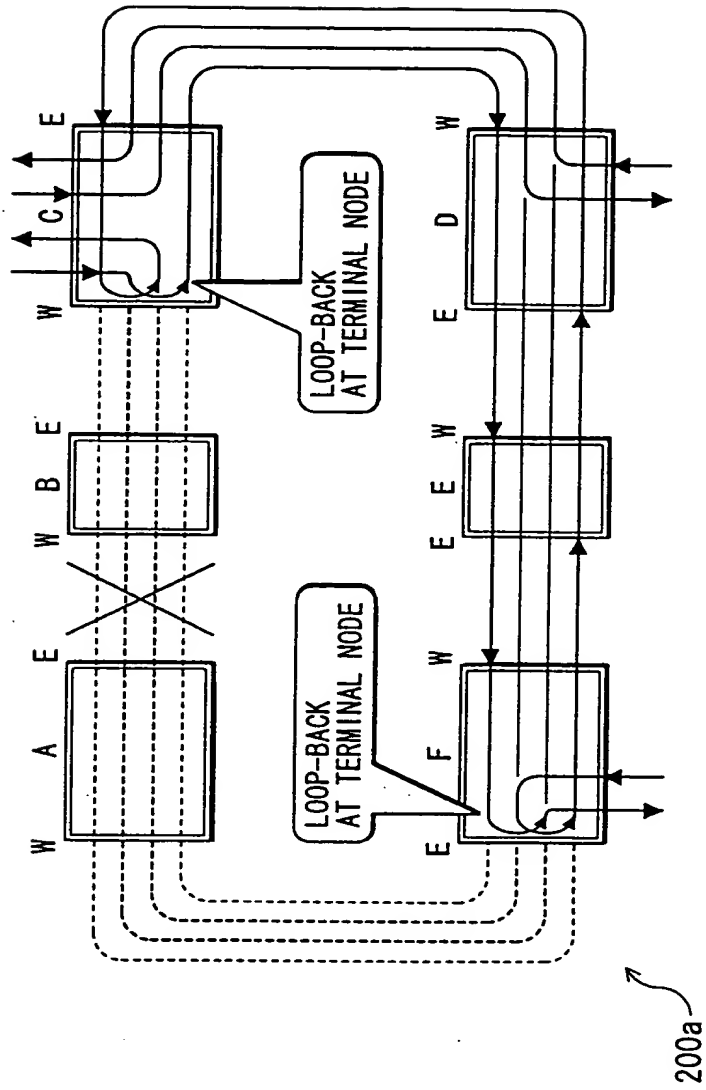


FIG. 57

DCP-DCW STRUCTURE

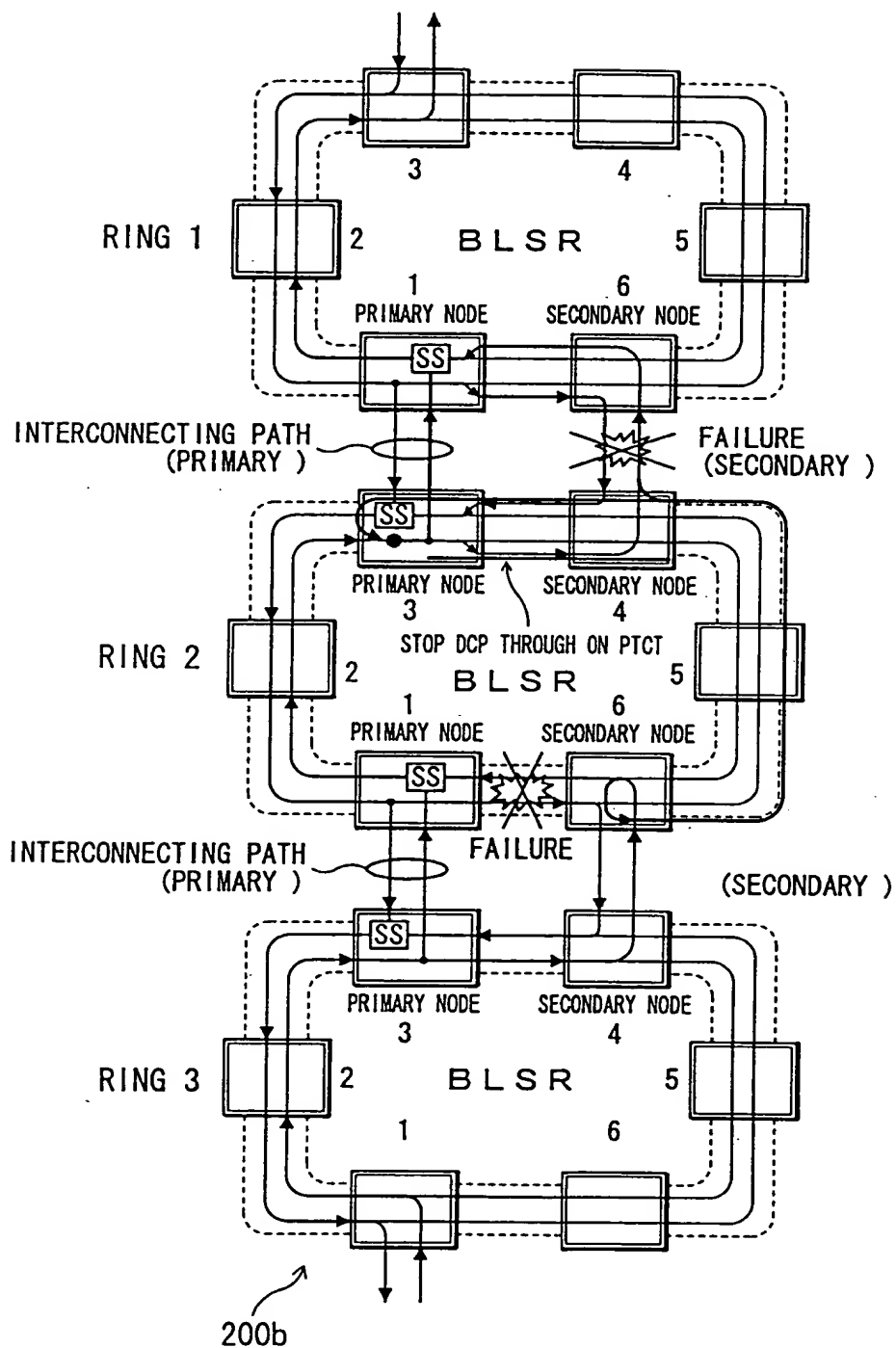


FIG. 58

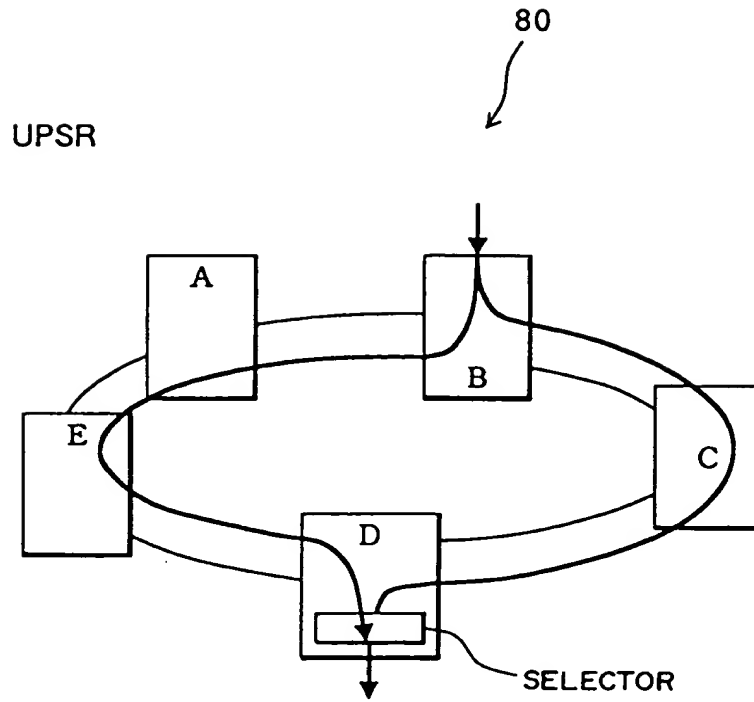


FIG. 59(a)

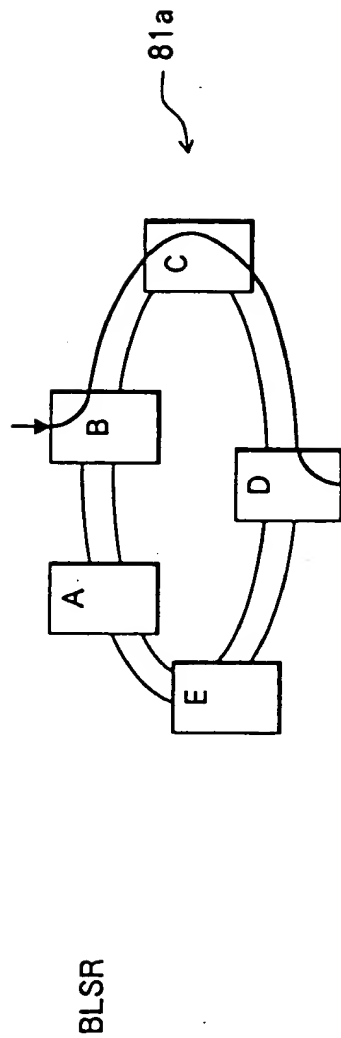


FIG. 59(b)

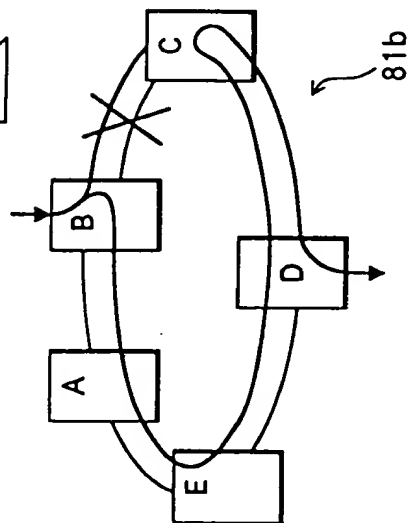


FIG. 59(c)

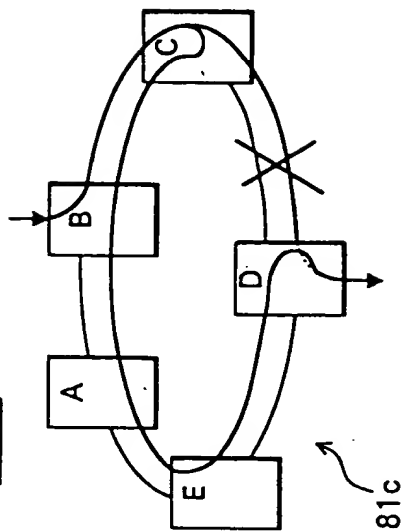


FIG. 60

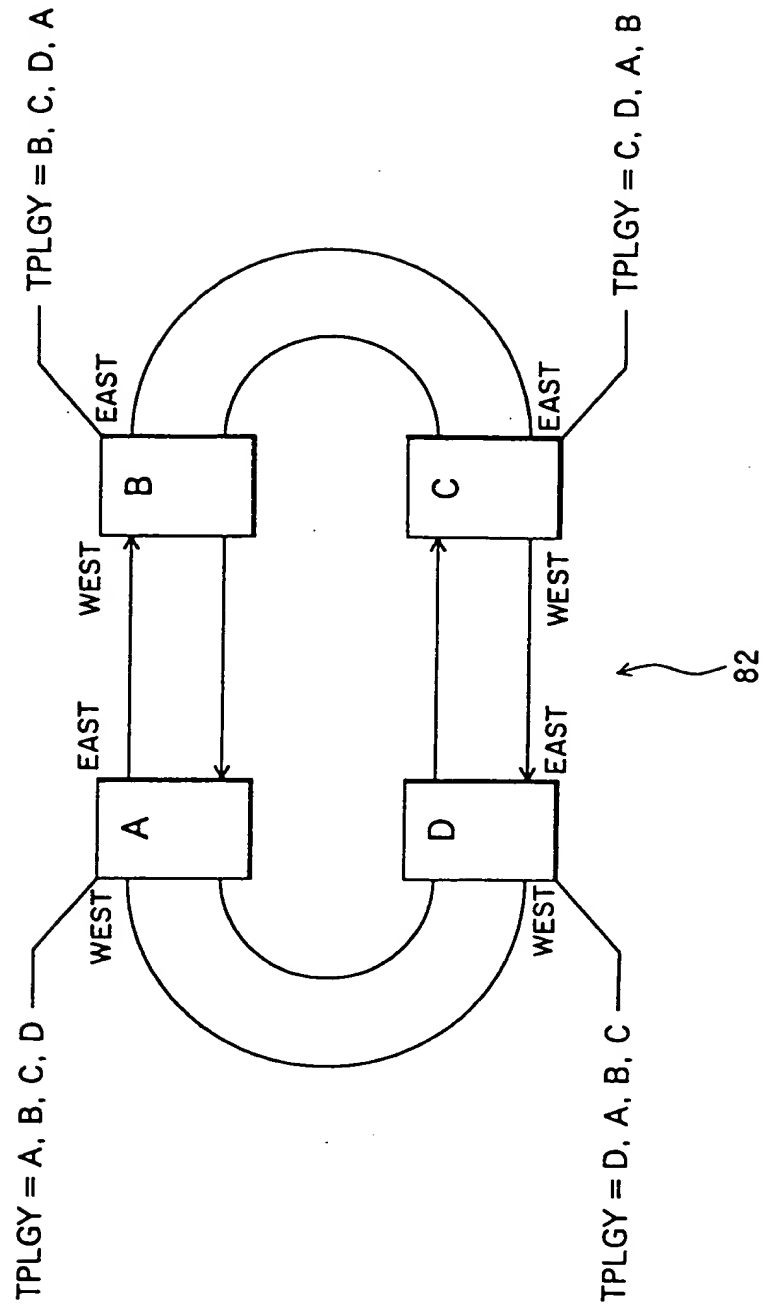
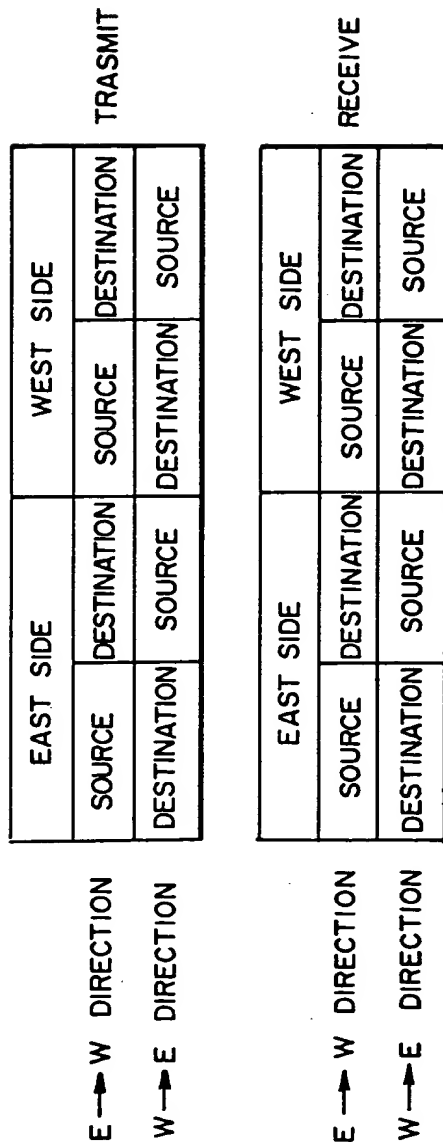


FIG. 61



SOURCE : 4 bits
DESTINATION : 4 bits

09695613-102400

FIG. 62(a)

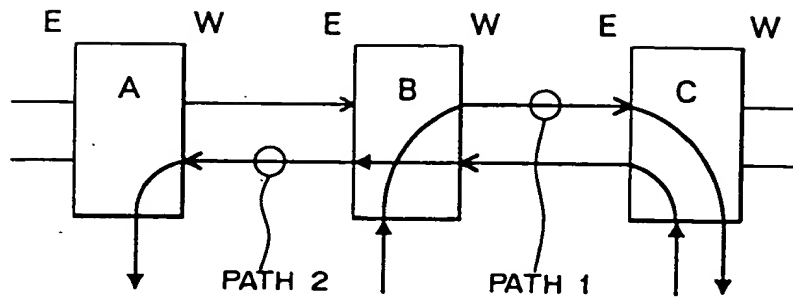


FIG. 62(b)

PATH	SOURCE NODE ID	DESTINATION NODE ID
1	B	C
2	C	A

FIG. 62(c)

		NODE A			
		EAST		WEST	
PATH1	E-W				
	E-W			A	C

NODE B			
EAST		WEST	
		B	C
A	C	A	C
SOURCE	DEST.	SOURCE	DEST.
DEST.	SOURCE	DEST.	SOURCE

NODE C			
EAST		WEST	
B	C		
A	C		

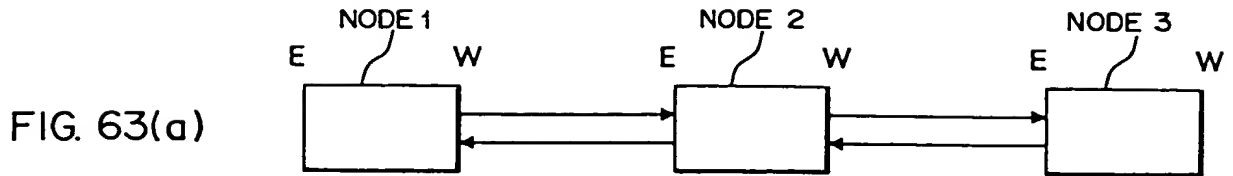


FIG. 63(a)

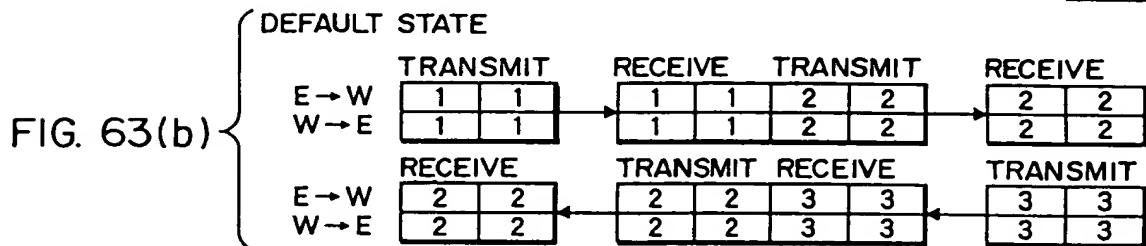


FIG. 63(b)

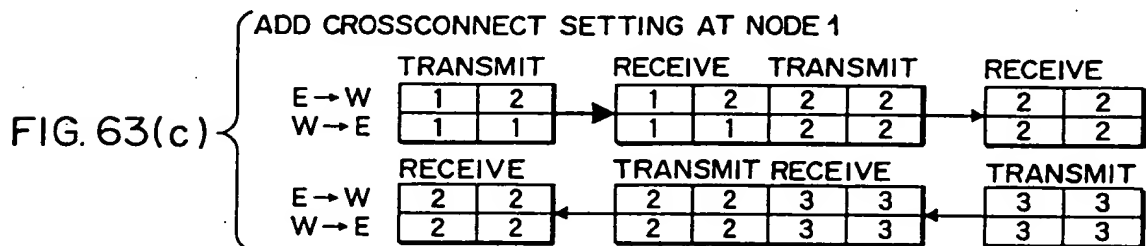


FIG. 63(c)

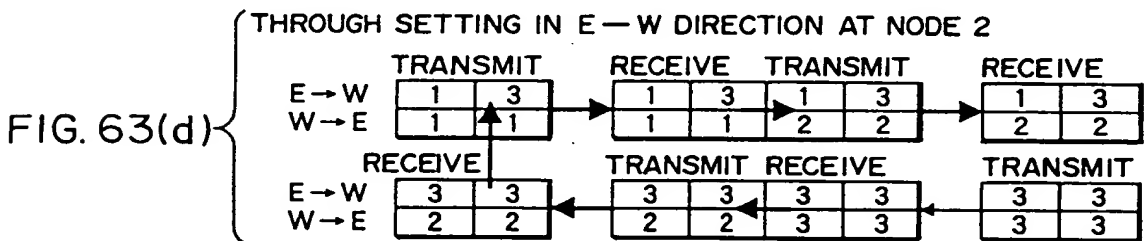


FIG. 63(d)

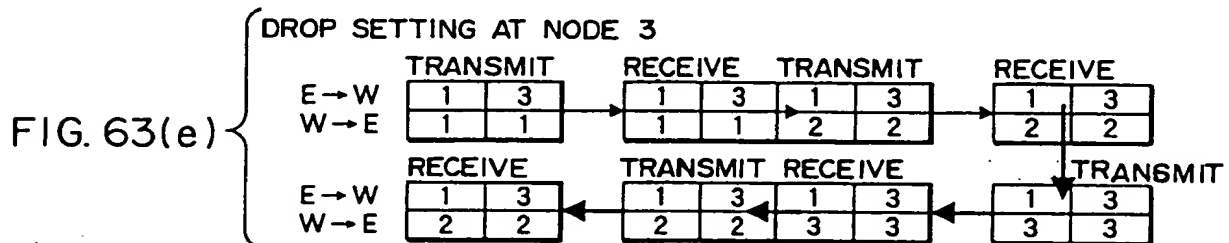


FIG. 63(e)

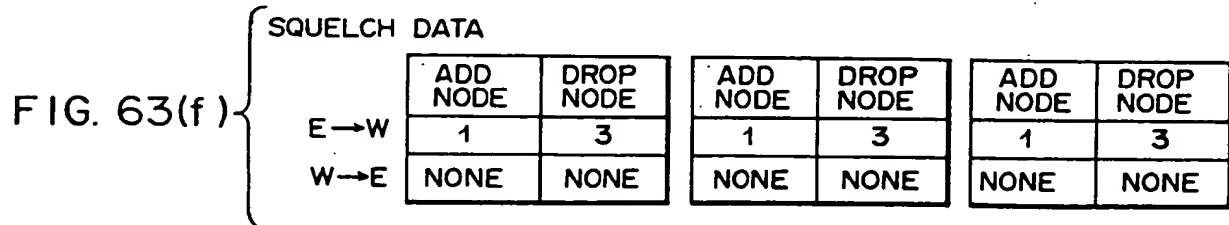
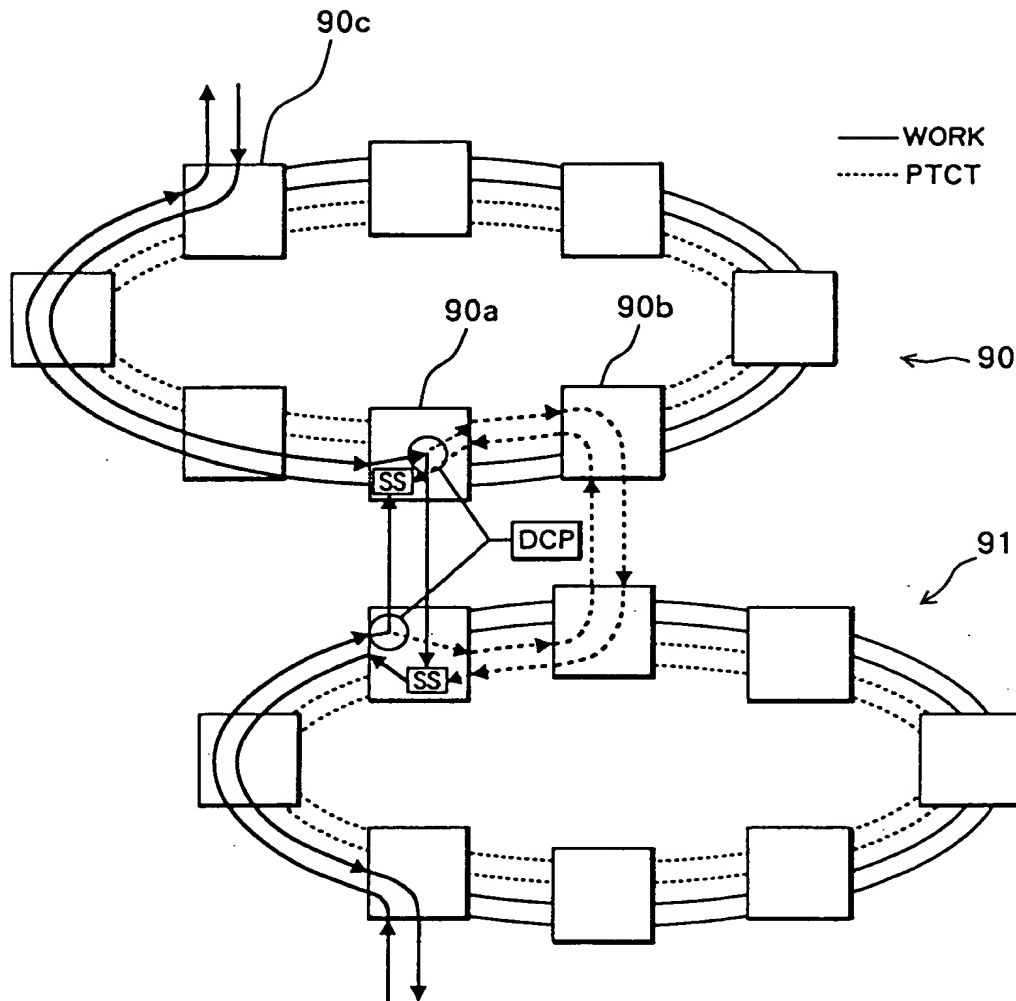


FIG. 63(f)

FIG. 64



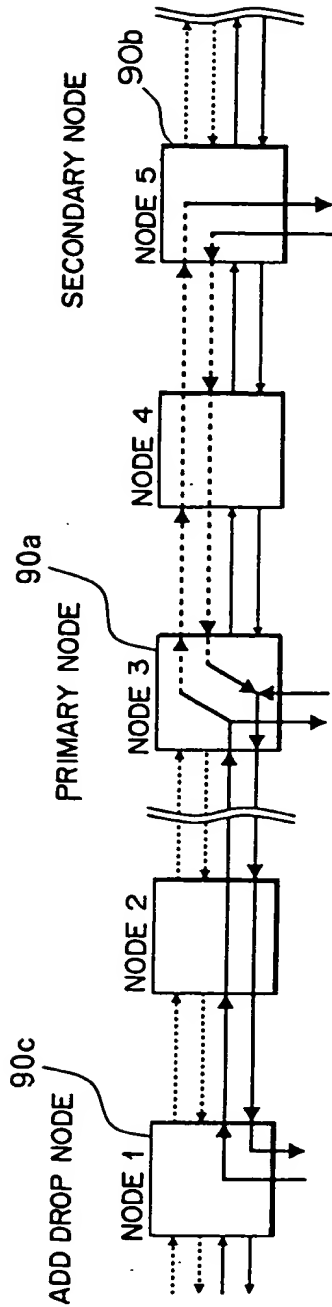


FIG. 65(a)

SQUELCH TABLE

ADD NODE	DROP NODE
1	5
5	1

ADD NODE	DROP NODE
1	5
5	1

ADD NODE	DROP NODE
1	5
5	1

NO SQUELCH DATA EXISTS
IN A SPAN IN WHICH PT
LINE IS USED

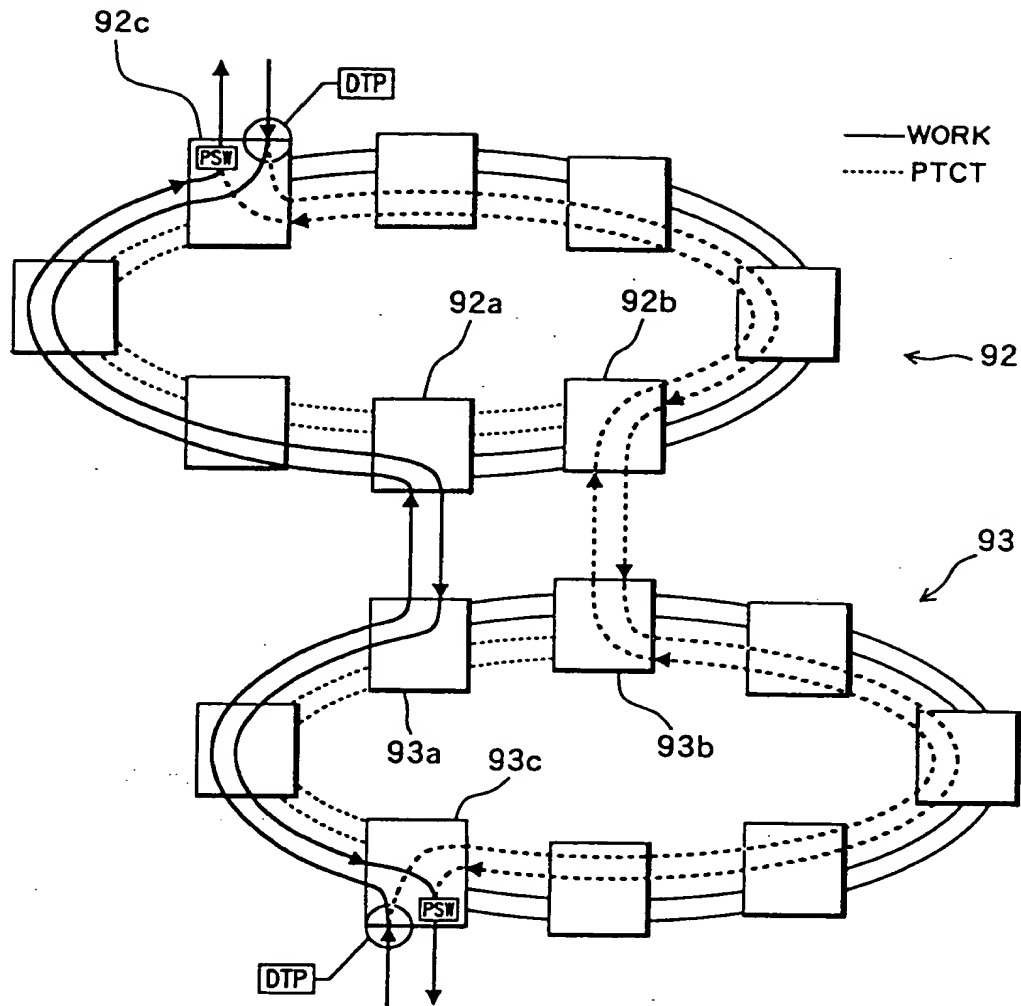
FIG. 65(b)

E→W
W→E

FIG. 66

	Operation of primary node	Operation of secondary node
Failure in working line involving primary node		Execute ADD/DROP control on PT line in a direction opposite to primary node, insert AIS in PT line toward primary node
Failure in working line not involving primary node	Inhibit "Continue on PT", fix switching of SS to ADD's side	Execute "Drop and Continue" on PT line toward primary node (PT line from terminal node) to transmit signals to primary node, inhibit setting of SS on PT line toward terminal node
Failure in protection line, failure in a span through which no signal passes	Inhibit "Continue on PT", fix switching of SS to ADD's side	Inhibit "ADD/DROP" to PT line

FIG. 67



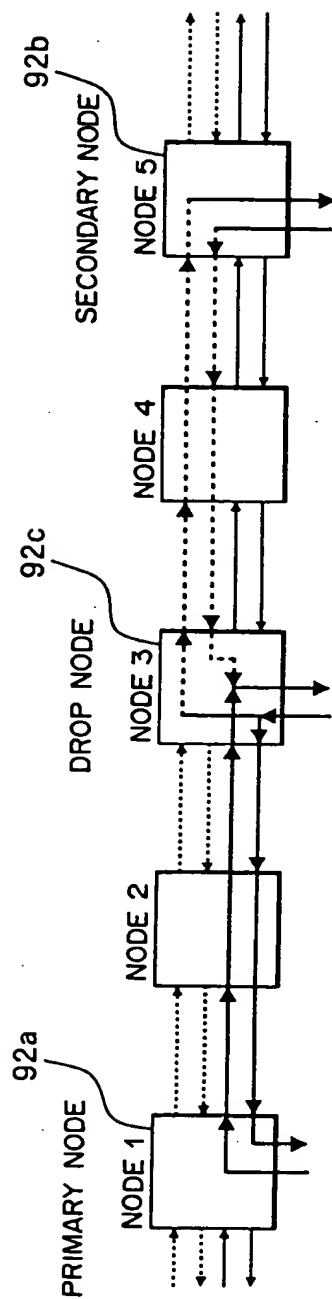


FIG. 68(a)

SQUELCH TABLE

	E → W		W → E	
	ADD NODE	DROP NODE	ADD NODE	DROP NODE
5	5	3	5	3
3	3	5	3	5

FIG. 68(b)

FIG. 69

	Operation of primary node	Operation of secondary node
Failure in working line involving primary node		Keep executing "ADD/DROP" on PT line
Failure in working line not involving primary node	Perform normal switching operation, operate as a through station when being a through station	Execute "Drop and Continue" on PT line toward primary node (PT line from terminal node) to transmit signals to primary node, inhibit setting of SS on PT line toward terminal node
Failure in protection line, failure in a span through which no signal passes	Same the above	Inhibit "ADD/DROP" to PT line
Failure in working line or PT line involving terminal node	Same the above	Same the above

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00420T ET956960

FIG. 70

SINGLE-SIDED DCW STRUCTURE

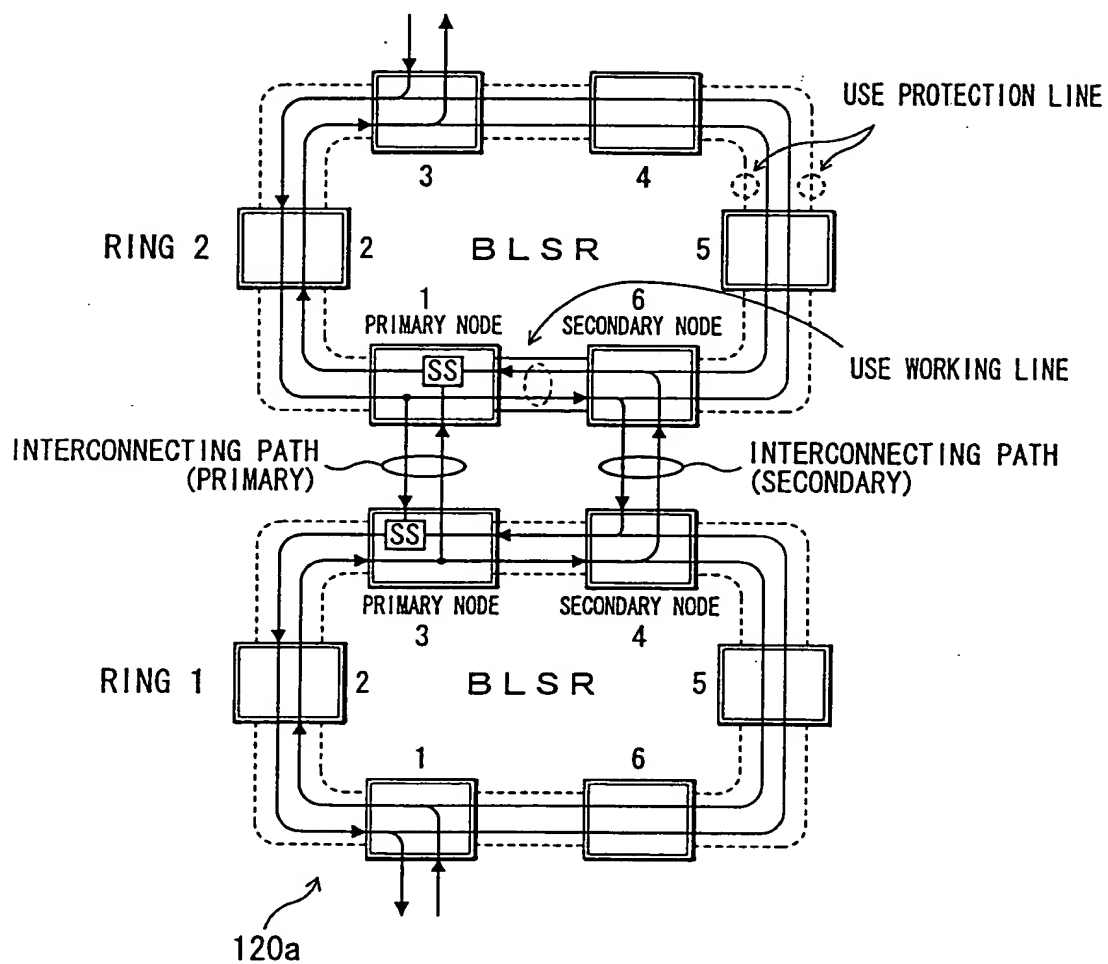
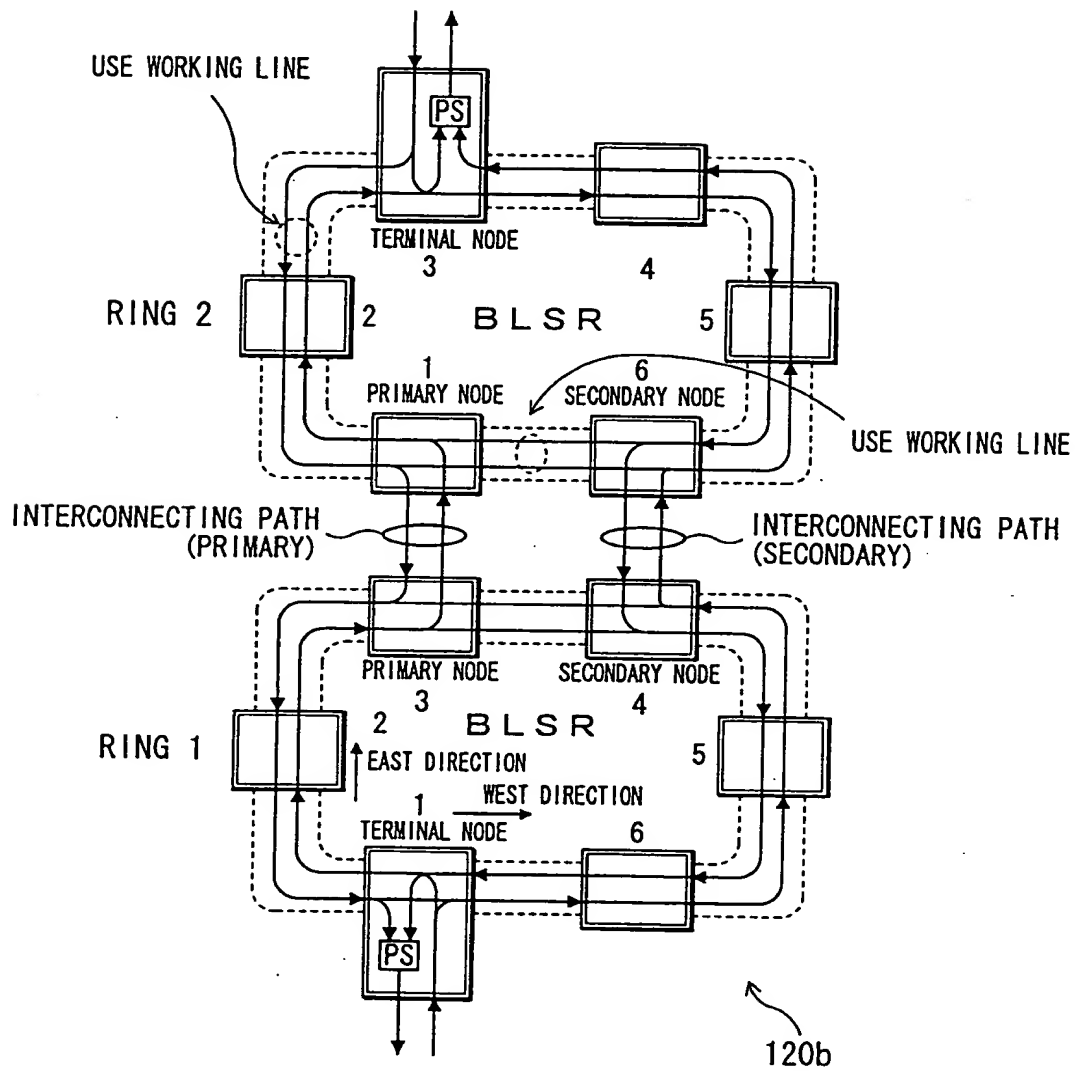


FIG. 71

DTW STRUCTURE



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FIG. 72

SINGLE-SIDED DCP STRUCTURE

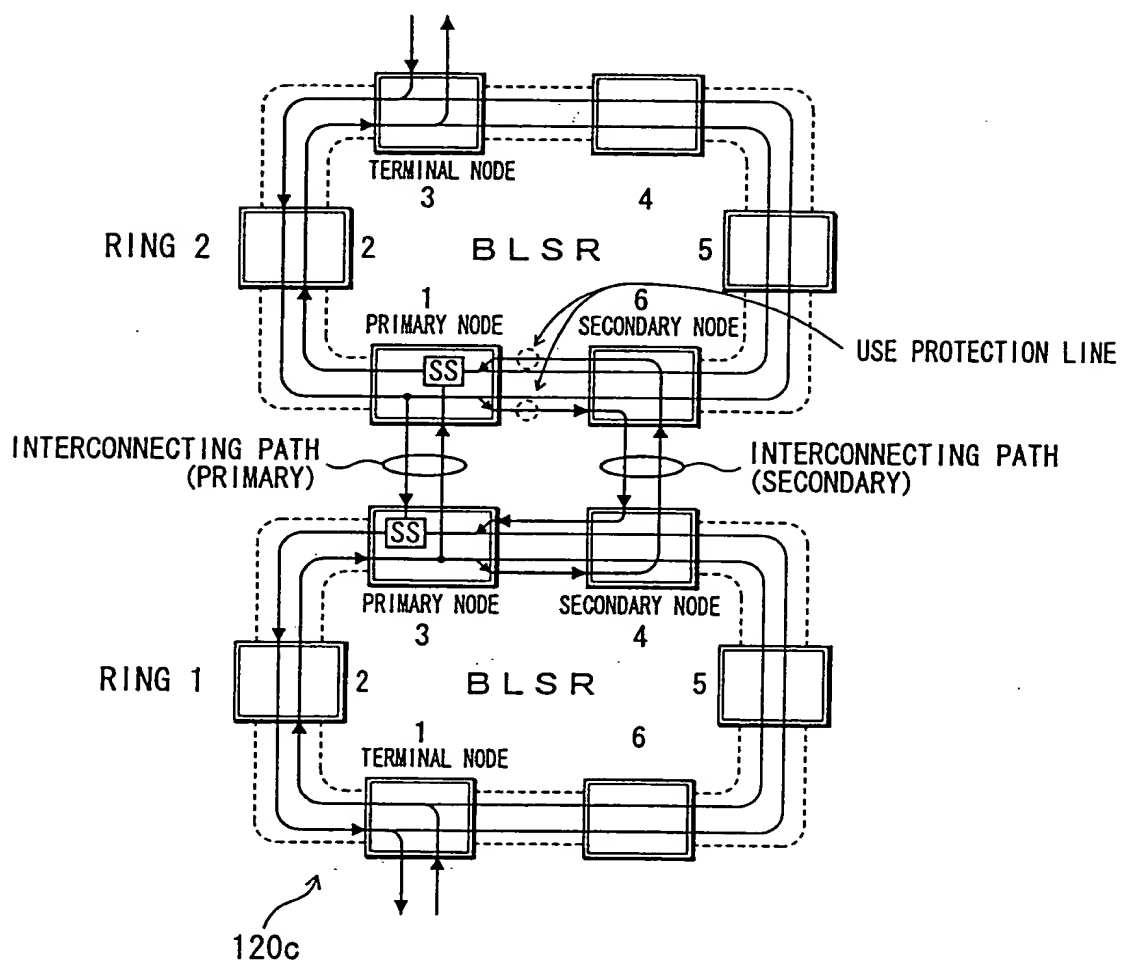


FIG. 73

DTP STRUCTURE

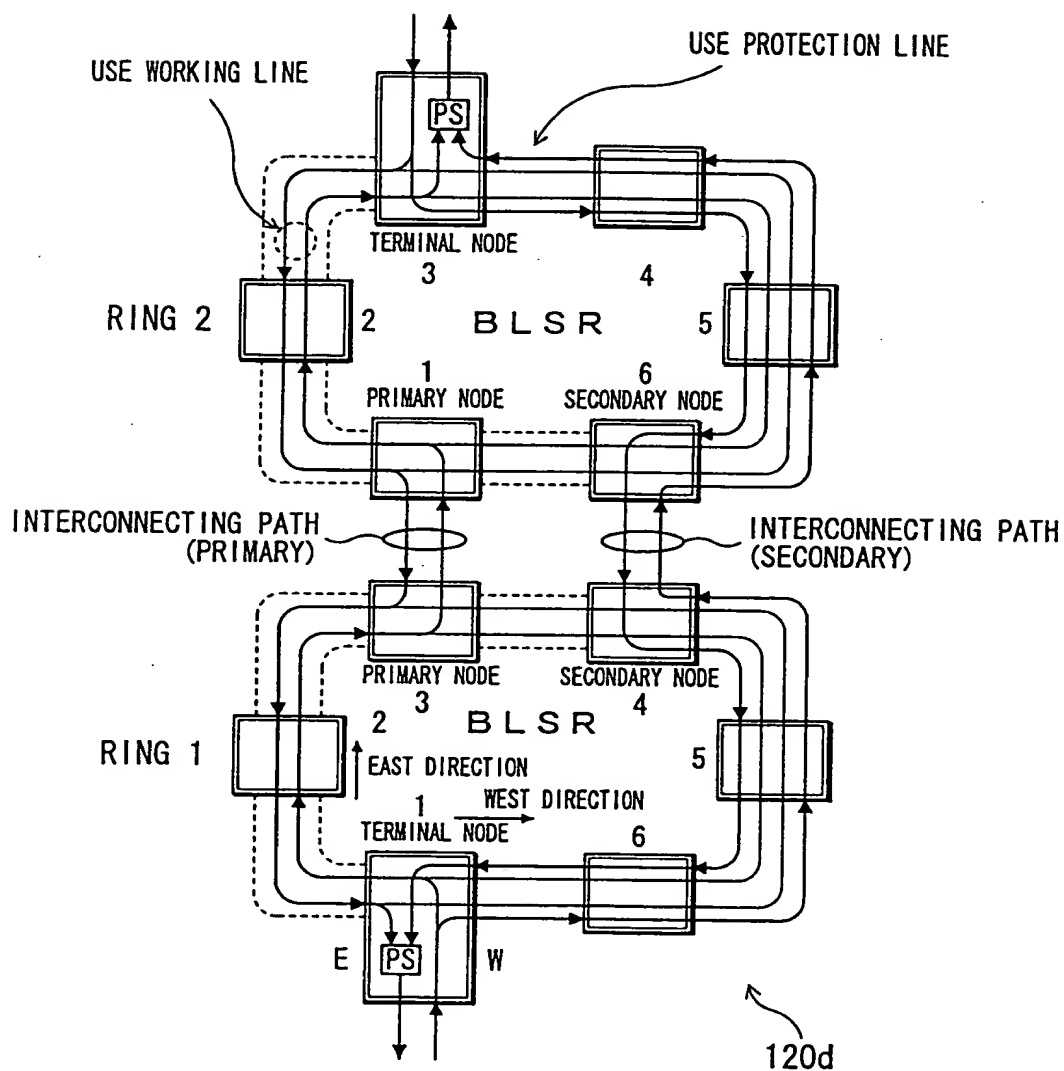


FIG. 74

NORMAL OPERATION IN NORMAL-BLSR

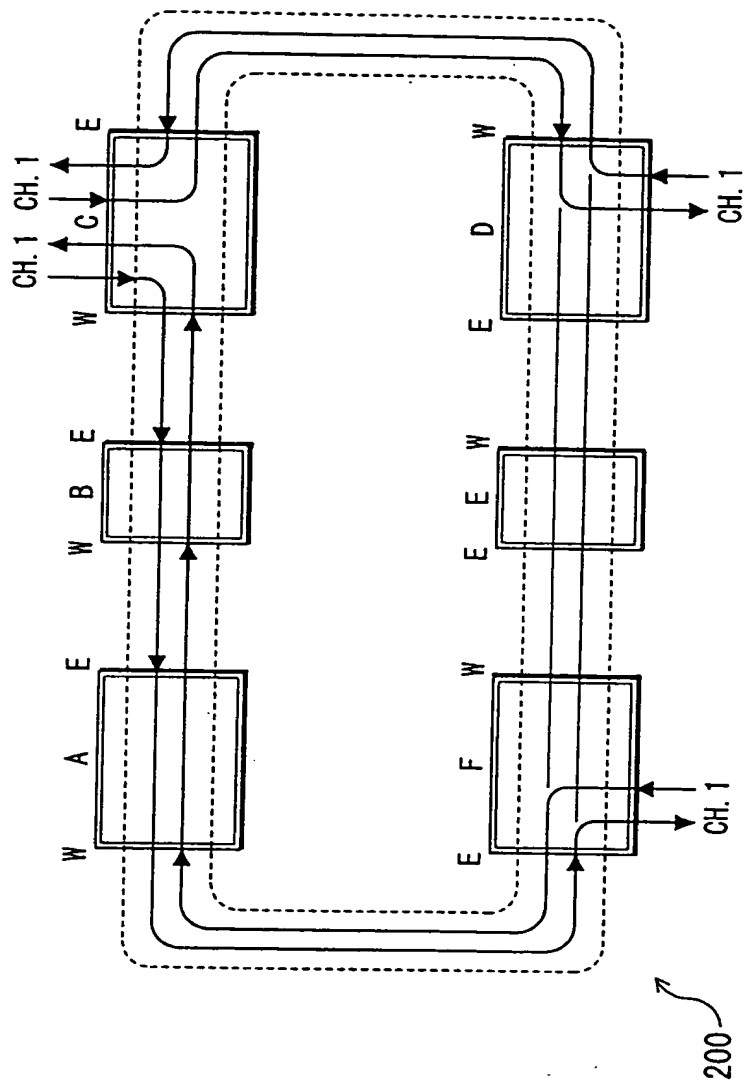


FIG. 75

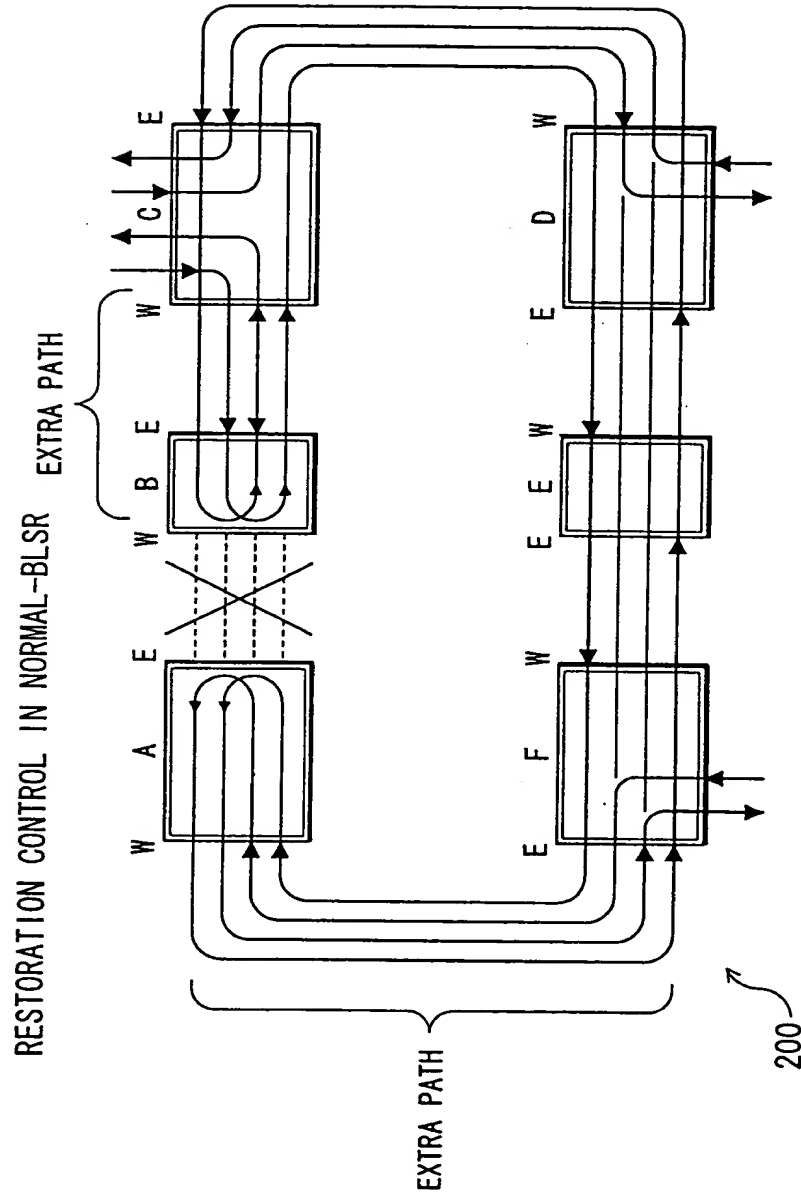
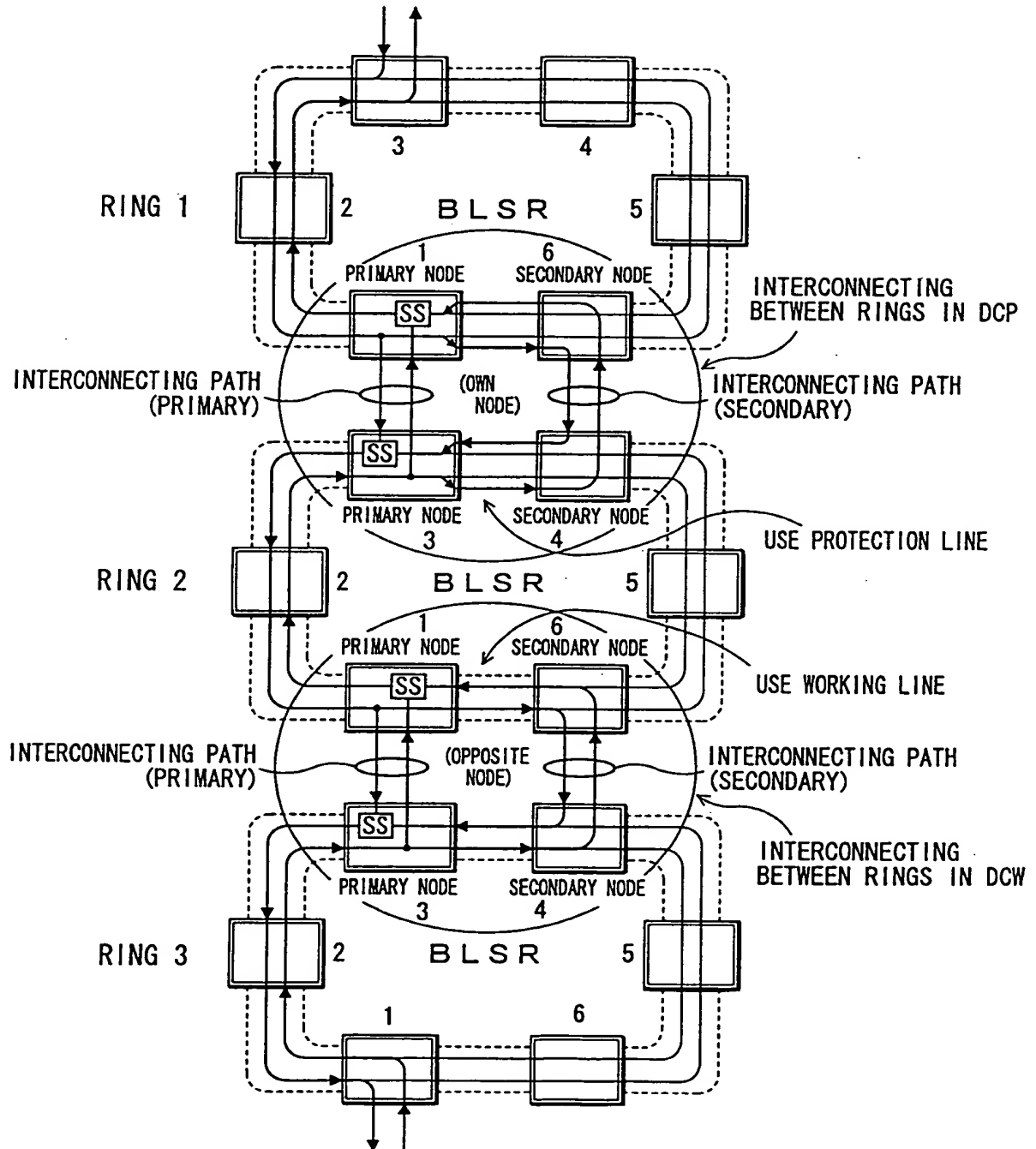


FIG. 76

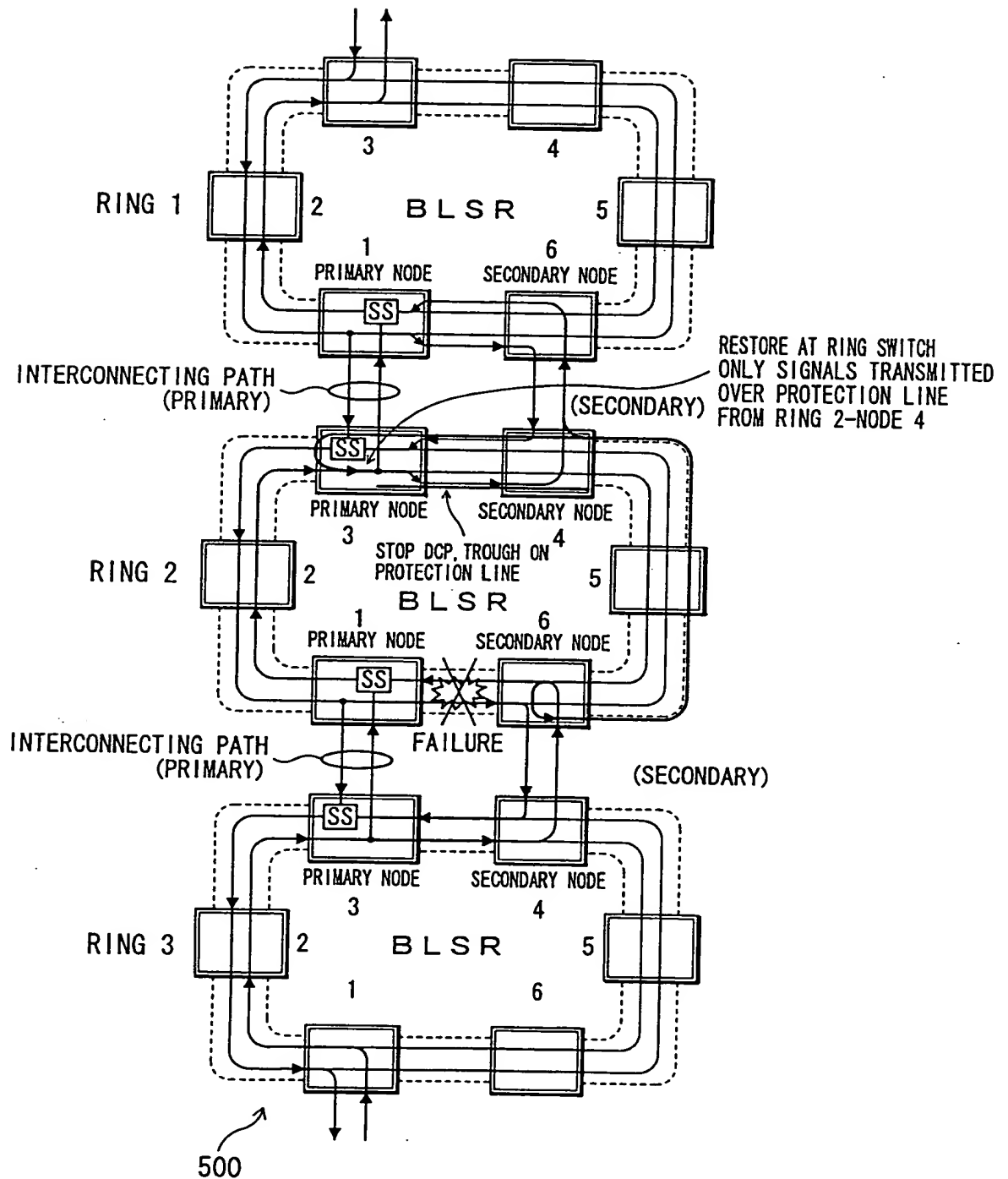
DCP-DCW STRUCTURE



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FIG. 77

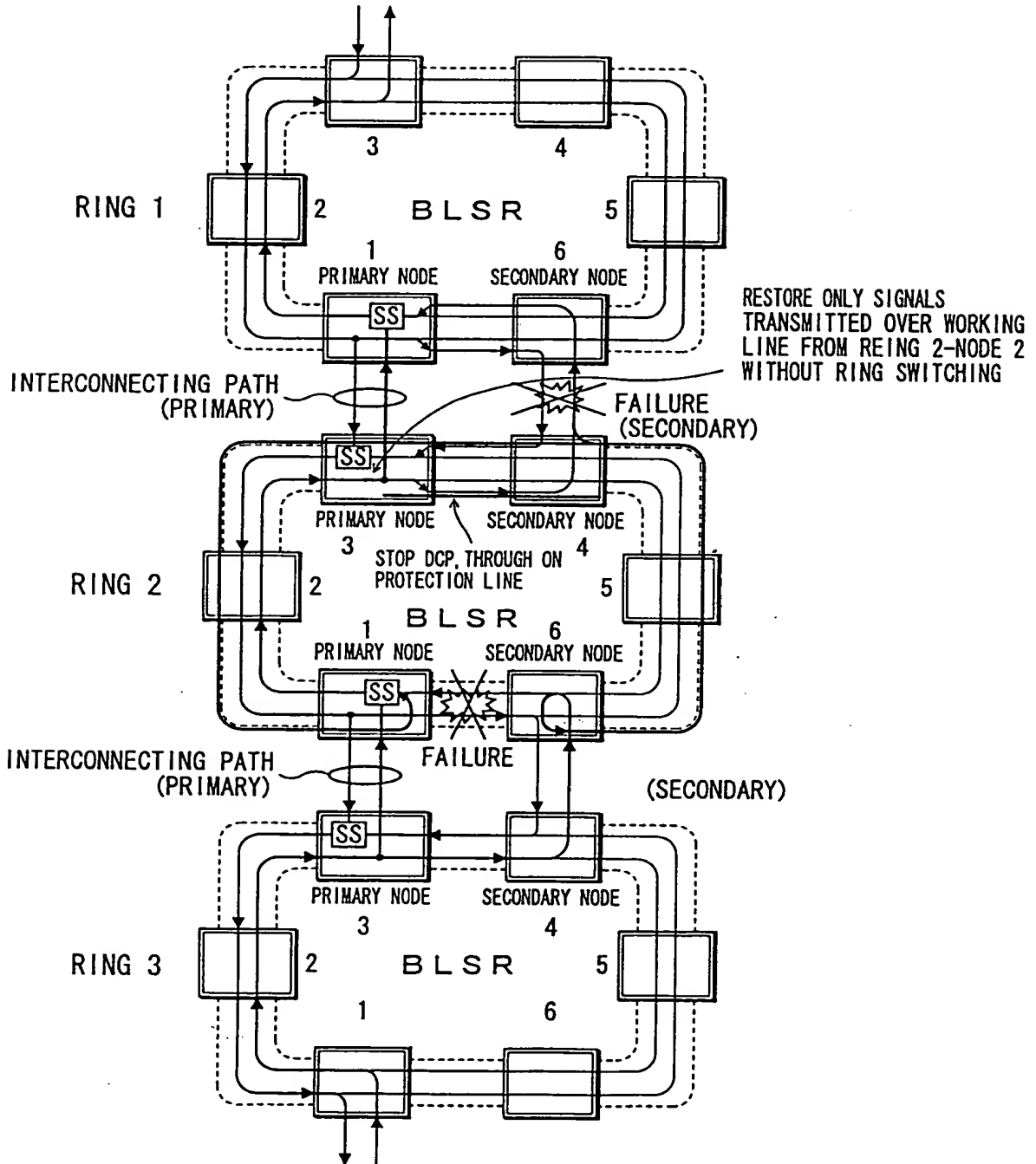
DCP-DCW STRUCTURE



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FIG. 79

DCP-DCW STRUCTURE



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